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PART FIRST.

Original Communications.

ART. I.—*On Acute Laryngitis.* By JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of New York.*

IT is only very recently that inflammation of the larynx has become the subject of any special inquiry; and by many, it has been supposed that it was a disease wholly unknown until within a few years past. This supposition is, however, by no means probable. Being a disease of simple inflammation, there can be no doubt that it must have occurred, occasionally at least, from the earliest periods; and a review of their writings will convince us that it did not escape the attention of observing men even in the infancy of medical science. For the purpose of establishing this fact, as well as of facilitating the inquiries of those who may hereafter be tempted to the investigation of this interesting subject, I shall enter upon a few historical details.

Hippocrates appears to allude very distinctly to this disease in his book of Prognostics. He says, "those anginas are very dangerous and speedily fatal, which produce no sensible change in the fauces or in the throat, which cause great pain, and induce orthopnœa. They produce suffocation on the first, second, third, or fourth day."† I am

* The substance of this Essay was first published in the year 1824, in the New York Medical and Physical Journal, (vol. ii.), of which the author at that time was one of the editors. It was the first general essay that had appeared on the subject of Laryngitis, and it may be curious to state that the disease was not noticed, as far as we know, by any of the works on the practice of medicine then extant. Since then, the attention of the profession has been especially attracted to the subject, and highly-valuable contributions have been made by several individuals. At present there is not a work on general practice, or on diseases of the thorax, in which the disease is not more or less fully treated. How far some of the authors of these works have availed themselves of the views and facts contained in this Essay, (and that without acknowledgment), is left to the judgment of those who may feel disposed to compare them together.—*Ed. N. Y. Journal.*

† The Prognostics and Crises of Hippocrates, translated from the Greek, &c. By H. W. Ducachet, M. D., &c., p. 68.

aware that a writer of no common authority, Sir Gilbert Blane, has given it as his opinion that the disease here referred to is more probably the croup, because no mention is made of difficult deglutition.* This cannot, however, be justly considered as any solid objection to the supposition of the disease being laryngitis. It should be recollected, that it was not the object of the great father of medicine to give us in his "Prognostics," minute and detailed descriptions of diseases. He presents us with those great and prominent features only, from which a judgment may be formed concerning the general character and the final issue of diseases; and hence it will be found, that in more instances than one, some of the most distinctive symptoms are not at all brought into view. Illustrations of this might be adduced in abundance. It is unnecessary, however, to go beyond the very subject of which we are speaking for one perfectly satisfactory. In the aphorism succeeding the one just quoted, Hippocrates speaks of anginas accompanied with pain, tumor, and redness, and adds, that they are very fatal. Now, it is evident that in these cases deglutition must be very greatly impeded, and yet no mention is made of this circumstance. The omission, therefore, of any notice of difficulty of deglutition, a symptom common to all the anginas, cannot be admitted as of any great weight in determining this question. As to the conjecture that the disease alluded to by Hippocrates is croup, upon the very principle assumed by Sir Gilbert Blane, it is attended with even greater difficulties than the one to which he opposes it, inasmuch as nothing is said concerning cough, a symptom so characteristic of croup as to distinguish it from every other affection.

Cœlius Aurelianus, in treating of the various kinds of cynanche, describes one which, if it does not answer in every respect to our ideas of laryngitis, yet resembles it more closely than any other disease. He represents it as unattended by any evident tumor or inflammation of the fauces, and as destroying life more speedily by strangulation than any of the other forms of this affection.†

By Celsus this species of angina is also distinctly recognised, when he says: "Interdum enim neque rubor, neque tumor ullus apparet," &c. And afterwards, in noticing the symptoms which are common to this as well as to the form of angina attended with tumor, he adds: "Illis communia sunt; æger non cibum devorare, non potionem potest, spiritus ejus intercluditur. Levius est, ubi tumor tantummodo et rubor est, cætera non sequuntur."‡

Riveinus also, in his Praxis Medica, under the head of Angina, has left us what was no doubt intended as a description of this disease.§

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* Medico-Chirurgical Transactions of London, vol. vi. p. 143.

† At si sine manifesto tumore fuerit passio, sequitur collorum tenuitas, cum extentione, atque subsectione inflexibili. Item vultus et oculorum cavitas; frontis extensio, color plumbens, spirationis difficultas plurima, nullo, ut supra diximus, manifesto tumore, sive inflammatione aliqua apparente, neque in internis, neque in externis partibus, hebe tudo plurima, atque imbecillitas ægrotantis; et celerimus velocatus cum præfectione, mortis effectus." De morbis acutis et chronicis, etc., lib. iii. cap. 2, p. 182. Amstelædami, 1722.

‡ Anod. Cornel. Celsi de medicina. lib. iv. cap. 4, p. 196. Lugduni Batavorum, 1746.

§ In speaking of one of the varieties of angina, he says: "In cynanche maxima est respirationes læsio, ita ut ægii strangulari videantur, et faucis etiam horis aliquando strangulantur; ac non nisi erecta cervice, et aperto ore spicare valeant

Morgagni, too, in his great work on the "Seats and Causes of Diseases," has furnished us with a history of the symptoms and morbid appearances, on dissection, of an unequivocal case of this disease.*

By Lommius, a writer who flourished in the early part of the last century, a most admirable description has been given of a species of angina, the identity of which with laryngitis can hardly be mistaken.† So, also, Boerhaave seems to have been perfectly familiar with the disease. "If the larynx," says he, "chiefly be acutely inflamed, and the seat of this evil be in the white muscle of the glottis, and together in the fleshy muscles, whose office it is to shut the same; there ariseth a terrible quinsy, which soon strangles. The signs are, a violent pain in the raising of the larynx, upon swallowing, increased upon speaking or hallooing; a very shrill and shrieking voice; a very hasty death, with the utmost anguish; and this is the worst kind of all, and not discernible by any outward signs."‡ In the treatment, he recommends copious and repeated blood-letting, purging, blisters, inhalation of warm vapors, and finally, bronchotomy.

Lieutaud divides anginas into four species: the inflammatory, catarrhal, gangrenous, and spasmodic. The last of these he thus defines: "Convulsive angina varies much from the other species of angina, both in the greater difficulty of breathing, and in swallowing being more impeded, so that even when erect, the patient can scarcely draw breath, while, from accurate examination, there appears no mark of redness, obstruction, or swelling about the parts affected. Such is the violence of this disease, that it takes off some patients in a few hours."§

Mead, also, in his medical precepts, gives an account of this disease as a species of quinsy, which he calls a *strangulation of the fauces.* In this affection, he says, "all the nerves are convulsed, and the patient drops down dead suddenly. Of this sort (of quinsy) I have seen one instance, in which, though a large quantity of blood was drawn twice in six hours' time, yet that evacuation was of no avail. Upon dissection, there was not even the least appearance of swelling or inflammation in the glands or muscles of the mouth and throat; but

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Fauces vehementa dolent, nullus tamen rubor aut tumor, ne que in faucibus intus neque extra in cervice apparet. Lazari Riverii, opera omnia Universa. Praxis Medica, lib. vi. cap. 7, p. 93. Lugduni, 1663.

* Epist. xliv. 3.—Cooke's Morgagni, vi. p. 221, Am. Ed.

† "Porro mortifera est, atque omnium horrendissima angina, citissime, que incidit, et necat, quæ neque in cervice, neque in faucibus quicquam conspicui, vel tumoris, vel ruboris exhibet, simulque summi doloris tormentum, et vehementem febrem, atque tantum non presentem suffocationem infert. Tum profecto oculi vertuntur, et rubent, et veluti iis qui strangulantur, prominent: vox impedita nihil significat, et qualis catulorum est, tenuis editur: os apertum hiat: frigidi æris cupidum, ex eoque spumans saliva movetur: lingua exeritur, crebroque, ut in anhelis propter laboris impetum equis, agitatur; potui datus liquor per nares remeat: labra livescunt: cervices rigidæ contractæque sunt: ipse æger totus inquietus est, crebro e cubili exilit, moleste supra dorsum, commodius recto collo atque capite cubat; videt, auditque obtuse, et præ suffocatione non intelligit quid audiat, quid dicat, aut gerat: tandem vero strangulatu, atque syncope oppressus, perit."—*J. Lommii Observationes,* p. 99. Amstelædami, 1738.

‡ Aphorisms, 802, 809.

§ Synopsis of the Universal Practice of Medicine, &c., p. 465, translated by E. A. Atlee, M. D.

the blood-vessels were turgid everywhere with a thick blood. This disease, however rare," he adds, "is described by Hippocrates."*

Although it appears evident from the foregoing review that this disease is very far from being of such recent origin as some have supposed, and also that, under the generic term of angina, it has been described by a number of successive writers, yet it must be admitted, that it is only within a few years that its true nature and distinguishing features have been investigated with that accuracy and precision to which its great importance so justly entitle it. That this was not accomplished, by the ancients more particularly, is to be attributed entirely to the want of those anatomical investigations after death, which in later times have thrown such a flood of light over pathological inquiries.

In 1809, three cases of this disease were reported by Dr. Matthew Baillie to a society in London for the improvement of medical and chirurgical knowledge, and were published in their transactions in 1812. The whole paper is exceedingly interesting, and furnishes a fine specimen of that accuracy of observation and maturity of judgment which so eminently characterized that distinguished physician.† It is a fact worthy of remark in connexion with this paper, that Dr. Baillie states, that after a practice of more than twenty years, he had only met with two cases of the disease, and that he knew many physicians, of much longer experience, who had never met with even a single case.

In the same year in which the foregoing paper was published, appeared an account of some cases of this disease in the Medico-Chirurgical Transactions of London,‡ by Dr. Farre; and to this physician, perhaps, are we most indebted for awakening the attention of medical practitioners to this important subject. Since that time, several valuable contributions of cases and observations have appeared in relation to it, in the succeeding volumes of the Transactions of that Society,§ as also in the periodical publications of Britain.‖ A brief notice is also taken of it by Dr. Marshall Hall,¶ in his treatise on diagnosis; and in the works of Armstrong,** Bell,†† and Bedingfield,‡‡ will be found many important facts and observations in relation to it.

In France, the disease was briefly but accurately noticed in the Dictionnaire des Sciences Medicales, which appeared in 1812.§§ In 1819, a memoir was published by M. Bayle; entitled, "Mémoire sur l'œdème de la glotte, ou angine laryngée œdémateuse."‖‖ This is a

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* Medical precepts and cautions, by Richard Mead, M. D., &c., p. 71.

† Transactions of a society for the improvement of medical and chirurgical knowledge, vol. 3, p. 275.

‡ Vol. 3, p. 84.

§ Medico-Chirurgical Transactions, vol. 3, p. 84, 323; vol. 4, p. 297; vol. 5, p. 156; vol. 6, p. 133, 141, 221.

‖ Edinburgh Med. and Surg. Journal, vol. 9, p. 199; vol. 10, p. 284; vol. 12, p. 205, 238, 247.

¶ On Diagnosis, by Marshall Hall, M. D. &c.

** Practical Illustrations of Typhus Fever, by John Armstrong, M. D., p. 334, Am. ed.

†† Surgical Observations, by Charles Bell, part 1, p. 14.

‡‡ A compendium of medical practice, by James Bedingfield, p. 51, Am. ed.

§§ Art. Angine.

‖‖ Nouveau Journal de Medicine, Janvier, 1819.

valuable production; but it relates entirely to that variety of the disease which is attended with effusion under the mucous membrane of the larynx.

In this country we are not without our contributions on this interesting subject. So early as the year 1808, in a paper on the cynanche trachealis, by Dr. Dick of Virginia, this disease is distinctly alluded to. He speaks of it as the most inveterate species of the croup; and from its being confined to the larynx, he assigns to it the name of *Cynanche laryngæa.** More recently, important and highly instructive cases of it have been recorded by Drs. Bliss† and Peixotto‡ of New York, and Dr. Jackson§ of Boston.

Besides the cases and detached remarks just enumerated, I am not aware that anything of importance has been done on this subject. At any rate, no general essay concerning it, as far as my knowledge extends, has yet been attempted. To supply, if possible, this defect in our medical literature, is the object of the present paper; an attempt to which I am the more emboldened, as the frequent occurrence of the disease in this city during the last year, (1823), has afforded me no inconsiderable opportunities of becoming practically acquainted with it.

Character and Symptoms. In its commencement this disease may be looked upon as purely local, and the first symptom by which it is usually ushered in, is a slight sense of soreness in the fauces, resembling what is commonly called a sore throat. As this is considered nothing more than the effect of an ordinary cold, it excites no alarm, and most commonly is slighted by the patient. Frequently no febrile symptoms are present, and he sometimes finds himself well enough to attend to his ordinary business. If the fauces be examined, they will perhaps be found covered with a blush of inflammation, unaccompanied generally by any swelling of the tonsils or neighboring parts. This state of the throat continuing for a day or two, the patient is suddenly seized with a sense of great uneasiness about the region of the larynx. The pain in the part is by no means acute, and the principal source of complaint is a feeling of stricture or obstruction about the passage of the larynx, through which the air passes in respiration. For the purpose of relieving this obstruction, frequent attempts are made to clear the throat by hawking, etc. The voice now becomes affected with greater or less hoarseness, according to the violence of the attack. Connected with this, there is labor in respiration and slight difficulty of deglutition. As the disease advances, sometimes in the course of a few hours, at others in a day or two, all the symptoms increase in force. The respiration becomes more impeded; the voice hoarser and more suppressed; the deglutition more difficult. Occasional fits of suffocation now come on, which sometimes last for several minutes, and occasion the greatest distress. As these subside, the patient becomes easier, without, however, experiencing the least amelioration of the other symptoms. At longer or shorter intervals, the fits of suffocation are

* Facts and observations relative to the disease of Cynanche Trachealis or Croup, by Dr. Elisha C. Dick of Alexandria; Barton's Medical and Physical Journal, third supplement, p. 242.

† Trans. of the Physico-Medical Society of New York, vol. 1, p. 115, N. Y. 1817.

‡ New York Medical and Physical Journal, vol. 2, p. 436.

§ The New-England Journal of Medicine and Surgery, vol. 10, p. 22.

repeated, and at each repetition, they become more violent and distressing. Frequently they seize the patient during sleep. The anguish which is exhibited at this stage of the disease, and during the paroxysms of interrupted respiration, can better be imagined than described. The larynx is perceived in violent motion—the head is thrown back, and on the countenance is depicted the extremest agony; the eyes are wild and prominent, the mouth is open as if gasping for breath, the lips are pale, the tongue protrudes, and the voice is scarcely audible. In this situation, patients have not unfrequently attempted to end their sufferings by endeavoring to cut their throats.* It is evident that, under such circumstances, life cannot be protracted very long, and the wretched victim, after a few convulsive efforts, expires from actual suffocation. Such is the general career of this disease, necessarily varying somewhat in individual cases, according to the violence of the assault and the peculiarities of the patient's constitution. In some instances, not the slightest trace of inflammation is to be detected on examining the fauces; and with the exception of the local uneasiness about the larynx, there is nothing which indicates the imminent danger in which the patient is situated.

I have hitherto said nothing of the symptoms of general febrile or inflammatory excitement as characterizing this disease, because, although in many cases they are very striking, yet in others they are wanting, and in some of the very worst cases they do not make their appearance from the commencement to the termination of the disorder. So striking, indeed, is this latter fact, that by Bayle it is considered as constituting a positive evidence of there being two distinct affections, to which the larynx is subject; the one being a simple œdema of that organ, while the other is the inflammatory affection of the mucous membrane described by Boerhaave and other authors. To myself, however, there does not appear to be any just ground for this distinction. In all the cases recorded by Bayle, and which are precisely similar to those of Baillie, Farre, etc., there can be no question that the disease was primarily and essentially a subacute inflammation of the mucous membrane of the larynx, and the œdema was nothing more than the consequence of this inflammation—being an effusion into the cellular tissue lying underneath it, and connecting it with the surrounding parts.† Looking upon it in this point of view, it is easy to

* Cases of this kind are related by Bayle.

† This opinion I conceive to be fully established by the post-mortem examinations of cases of what are called *œdema of the glottis.* In almost every instance, more or less inflammation of the mucous membrane of the larynx has been detected. In confirmation of this fact, the reader is referred, among others, to the following cases:

Cases by Dr. Farre, Medico-Chirurgical Transactions of London, vol. 3, p. 84.

Cases by Dr. Bouillaud, recorded in Johnson's Medico-Chirurgical Review, N. S., vol. 3, p. 205.

Cases by Mr. Porter, in his work on the Surgical Pathology of the Larynx and Trachea, p. 111.

I am happy to find this opinion sustained by other authority than my own. Dr. James Johnson, in an article in which he notices this very essay, says, "The term *Angina œdematosa* appears to be unnecessary. The œdema clearly constitutes no fundamental character of the disease. It is an effect or consequence of the acute inflammation going on in the parts."—Medico-Chirurgical Review, N. S., vol. 3, (for 1825,) p. 207.

On this point, Andral says, "Œdema of the glottis is nothing more than a considerable infiltration of the cellular tissue situated between the folds of the mucous

account for the absence of febrile symptoms, as well as for the fatal nature of these cases. The effusion relieves, to a certain extent, the local inflammation, and thus prevents reaction; at the same time that it mechanically closes the rima glottidis by the distension which it occasions, and thus destroys the patient. If the inflammation of the laryngeal membrane, on the other hand, be greater, general febrile and inflammatory symptoms may come on, and instead of this passive infiltration in the subjacent cellular tissue, it may terminate in the effusion of coagulable lymph on the surface of the membrane, and sometimes in ulceration and destruction of the parts. If this view be correct, it is evident that the only difference in these cases consists in the degree of inflammation, and the consequences of it, resulting from the peculiar structure of the larynx, and not, as Bayle supposes, in any specific difference of disease.

The most usual duration of this disorder is from three to five days. In not a few cases, however, it has proved fatal within the first twenty-four hours, and in some even during the first paroxysm of suffocation.*

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membrane which surrounds the rima of the glottis, and which, from being thus distended and swollen, obstructs the passage of the larynx to a greater or less degree. This œdema rarely occurs as an idiopathic disease: it is most commonly connected with acute inflammation of the mucous membrane of the larynx, though it sometimes occurs during the progress of chronic affections of that organ."—(A Treatise on Pathological Anatomy, by G. Andral, translated by Townsend and West, vol. 2, p. 310. American edition.)

* The following case furnishes a most remarkable instance of the extraordinary rapidity with which this disease sometimes destroys life. It occurred in this city, and I am indebted for the particulars of it to my friend Richard R. Hoffman, M. D., who was the physician in attendance.

"At one P. M. on the 10th April, 1823, a servant called at my office, requesting me to hasten to Mr. M., whom she reported to be choking to death. Taking with me some emetic medicines, a probang, and polypus forceps, which were at hand, I immediately attended. On entering the room, I was struck with the extreme anxiety expressed on the patient's countenance. His neck was denuded, the larynx moving violently up and down, his eyes staring, face flushed, and covered with drops of sweat. His whole frame was agitated, and the difficulty of breathing appeared almost insufferable. He pointed to a glass, containing a mixture of Cayenne pepper and vinegar, and applying his hand to his throat, reiterated in a hurried whisper, 'Can't breathe, can't breathe, Cayenne pepper,' etc. On attempting to swallow a little water which was handed him, it was convulsively ejected from the mouth. I seated him near the window to examine the fauces; they were rather more red and tumid than natural, but presented to the view no other morbid or extraneous impediment to respiration. A vein was opened in each arm, (using his cravats for ligatures,) and bled freely; but death supervened from suffocation, with a rapidity as great as if a strict ligature had been made on the trachea.

"In the short interval, not exceeding ten or fifteen minutes, from the time of my arrival, until the fatal termination of the case, no account of the previous symptoms could be obtained. It was now ascertained that he had complained of soreness of the throat the evening before, as well as at breakfast, but was not prevented from engaging in his mercantile pursuits that morning. Experiencing some difficulty of breathing, however, he returned home earlier than usual for dinner, and erroneously believing his complaint arose from the palate being down, resorted to the mixture of Cayenne pepper for relief, a few moments before I was called in.

"On the following morning, the parts concerned in the disease, as well as the pharynx, fleshy palate and tongue, were detached for examination. The mucous membrane of the fauces appeared slightly inflamed, while that of the rima glottidis especially, was so distended by a visible congestion of the blood-vessels, together with an effusion of serum in the subjacent cellular texture, as effectually to conceal and shut up the passage to the windpipe. This inflamed and œdematous condition of the mu-

By Bayle, instances are related in which it was protracted during the space of several weeks, and then terminated fatally. Such instances, however, are rare.

It may be considered as one of the striking peculiarities of laryngitis, that its attacks are confined to persons who have reached adult life. Such has, at least, been the case in almost every instance which has as yet been recorded. In some it has been at the advanced age of sixty, and even upwards. Most usually, however, it occurs in the prime of life, between the years of puberty and forty-five or fifty. In a very few instances, it has been observed in children. By Dr. Marshall Hall, cases of this kind are recorded.* But in these, it should be recollected that the disease was induced by the accidental application of a powerfully stimulating cause to the parts themselves, in which, of course, predisposition could have had no agency at all. With regard to other cases that have been adduced of its occurring in infancy and childhood, they are in many respects so unsatisfactory as scarcely to justify us in considering them as genuine instances of this disease.

Although not confined exclusively to either sex, yet males appear to be much more liable to inflammation of the larynx than females. This is a curious fact, confirmed by the histories of the cases which have been recorded. Whether this be purely accidental, or whether it be owing to the greater exposure of males to the causes producing the disease, it is not easy to say.

From the frequency of inflammatory affections, and especially those of the throat in the autumn and winter, it might naturally be supposed that this disorder would be more likely to occur in those seasons, than in any other portion of the year; and this has been verified by the result of observation. It may, however, take place at any period of the year, if the patient be exposed to sudden transitions of temperature, or to an atmosphere loaded with moisture.

In many, perhaps in a majority of cases, it has been remarked that the patients had been previously subject to catarrh, quinsy, etc. From the vicinity of the organs affected in these complaints, it can readily be conceived how inflammation of them would predispose the larynx to be similarly affected.

Appearances on dissection. On opening the body of a person who has died of laryngitis, the tonsils and the velum pendulum palati will be found perhaps slightly inflamed. In some instances, the posterior and upper portion of the tongue is also somewhat inflamed. The epiglottis most generally exhibits the evidences of high inflammation, and is much thickened: it frequently stands erect, so as to leave the cavity of the larynx almost entirely uncovered. In the larynx, various morbid appearances present themselves, depending upon the violence and

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cous membrane was apparent throughout the larynx, and traces of inflammation extended down the trachea, as far as its bifurcation, where our researches terminated.

"The subject was in the prime of life, of a strong constitution, sanguine temperament, and of a plethoric habit of body.

"It was a source of satisfaction to the numerous relatives of the deceased, that two gentlemen of the highest eminence in the profession arrived almost simultaneously with myself."

* Four cases of children who had attempted, by mistake, to drink boiling water from the spout of a tea-kettle. By Marshall Hall, M. D., etc. (Medico-Chirurgical Transactions, vol. 12, p. 1.)

duration of the previous disease. In some instances no other evidences of disease are observable, besides a simple redness and thickening of the mucous membrane of the larynx. This thickening is frequently so great as nearly to obliterate the cavity of the glottis.

In other cases, together with the inflamed condition of the mucous membrane of the larynx, there is found an effusion of serum in the cellular tissue underneath it, so great as completely to close the rima glottidis. This constitutes that form of the disease which is known by the name of *œdema of the glottis.*

In other cases, again, the inflammation of the membrane of the larynx terminates in effusion of lymph upon its external surface, by which the passage of the glottis is either completely closed, or very much diminished in size.

Occasionally purulent matter has been detected on the larynx; and in one case, an extensive abscess was found between the mucous membrane and the muscles of the larynx.* Generally, the trachea is unaffected. In some cases, however, slight traces of previous inflammation are discovered. It is not followed by effusion; and in no instance, I believe, has anything like the croupy membrane been formed.

The lungs are also more or less affected. In two of the cases recorded by Dr. Baillie, "the lungs did not collapse upon taking off the sternum." In one of Dr. Farre's cases, the lungs were slightly congested; and in the other, "there was some accumulation of mucus in the cells of the lungs, and a slight effusion of serum into their reticular structure; the left pleura partially adhered, and the cavities contained rather more fluid than is natural to them." By Bayle, it is stated that the lungs were found gorged with blood. By the same writer, the blood is asserted to be darker colored, and more difficult to coagulate than healthy blood. These appearances are very justly ascribed to the deficiency of oxygen with which the lungs are supplied, and the consequent superabundance of carbon in the blood; and it is to the interruption in the process of respiration, that death in this disease is to be ascribed. What confirms this opinion, is the fact that the condition of the lungs resembles in every respect that of those who die in consequence of suspended respiration from other causes.

Causes. Among the causes capable of producing this disease, may be mentioned, sudden variations of temperature; diseases of some of the neighboring organs; the application of a powerful stimulus to the part itself.

Sudden variations of temperature. As of all other inflammatory disorders, this is unquestionably the most common cause of laryngitis. Most of the cases on record have arisen from imprudent exposure of the body. A humid atmosphere would also seem to be more particularly favorable to the development of the disease. This was strikingly confirmed in this city in 1823, when it may almost be said to have prevailed epidemically.

Diseases of the neighboring organs. From the contiguity of the tonsils, pharynx, etc., to the larynx, it is easy to see how affections of the former may involve the latter. There is every reason to believe, that

* See History and Dissection of a fatal case of Cynanche laryngæa, by Edward Percival, M. D. (Medico-Chirurgical Transactions of London, vol. 4, p. 304.)

even ordinary inflammation of the tonsils sometimes proves suddenly fatal by the diseased action extending to the larynx. That this is particularly the case in the malignant form of the disease, (Cynanche maligna,) will scarcely admit of a question. In those cases of this latter disease which sometimes occur, in which the patient dies suddenly and unexpectedly, this occurrence may generally be traced to the extension of diseased action to the larynx.

That disease of the pharynx may produce a subsequent affection of the larynx, is established by several cases on record. Mr. Bedingfield relates the case of a woman aged thirty, who, during convalescence from pneumonia, was attacked with difficulty of deglutition and respiration, hoarseness and suppression of voice, cough, etc. On examining the fauces, no appearance of disease could be detected. After remaining in this condition for twelve weeks, the patient died; and on dissection, the larynx was found inflamed, and the membrane so much thickened as to diminish very considerably the rima glottidis. On continuing the dissection, it was discovered that the cause of this mischief in the larynx was a tumor, in shape and size resembling a filbert, situated at the anterior pharynx, just below the rima glottidis.* By its pressure, it had produced ulceration in the pharynx, as well as the morbid appearance just described in the larynx.

Mr. Charles Bell gives the history of a case of diseased pharynx, which, after about a month's continuance, spread to the larynx; and towards the close of the disease, this seemed to be the part mainly affected. After a protracted sickness of nearly three months, the patient, a woman about thirty-five years old, died; and on dissection, the pharynx and beginning of the œsophagus were found studded with scirrhous tumors, so as nearly to close the passage. "Where the mucous membrane was reflected over the glottis into the trachea, it was found much thickened, white, and dense; and on looking through the larynx from below, two white tumors were seen projecting from the sides of the tube. These left a triangular opening so small, that it was wonderful this poor woman could breathe so long."†

The application of a powerful stimulus to the part. The stimulus to which I allude is boiling water or steam. In the Medico-Chirurgical Transactions of London are related several interesting cases of children who, by mistake, attempted to drink boiling water from the spout of a tea-kettle. From the report of the writer, it appears that the effects were not, as might have been expected, inflammation of the œsophagus and stomach, but inflammation of the glottis and larynx.‡ In the New York Hospital, as I am informed by the former house-surgeon, Dr. F. G. King, cases of a similar character have occurred in several persons who were scalded on board one of our steam-boats, from the bursting of the boiler of the vessel. The inhalation of the hot steam produced all the symptoms of acute laryngitis.

Diagnosis. As laryngitis destroys life with great rapidity, the physician has frequently but a very short period allowed him in which to put forth the resources of his art for the rescue of his patient. To enable

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* A Compendium of Medical Practice, by James Bedingfield, p. 51

† Surgical Observations, Part I., by Charles Bell, p. 53.

‡ By Marshall Hall, M. D. etc., vol. 12, p. 1.

him to use the most prompt and efficacious means for this purpose, it is necessary that it should be clearly distinguished from those of the neighboring organs, with which it may be confounded.

Tonsillitis. In this disease both the respiration and deglutition are sometimes seriously affected, but as these are occasioned entirely by the inflammation and enlargement of the tonsils, it may readily be distinguished by an inspection of the fauces. In laryngitis, no tumor or swelling of the tonsils is observed, and the difficulty of respiration is not merely greater, but arises from a cause entirely different.

Pharyngitis. The freedom of the respiration in this complaint, while the difficulty of swallowing is exceeding great, sufficiently distinguishes it from laryngitis.

Trachitis. This is the disease most liable to be confounded with laryngitis, and which it is of the most importance correctly to distinguish, inasmuch as upon it may depend our decision in relation to one of the most essential means of relief, viz: the operation of laryngotomy. Although these two diseases have several symptoms in common, yet I believe an attentive observer will experience little difficulty in recognising the existence of either, if the symptoms are tolerably well marked. Those which distinguish laryngitis, are the soreness of the throat, and the blush of inflammation observed in the fauces, in the onset of the disease—the early and great suppression of the voice—difficulty of deglutition—and the seat of distress being the region of the larynx. In all of these respects it differs very strikingly from croup, in which there is no previous affection of the fauces—no loss of voice—no difficulty of deglutition. In croup, moreover, the disease extends down through the trachea into the lungs, and there is always present that peculiar ringing cough, which is at once recognised by those who have ever heard it.*

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* The disease of which General Washington died, although denominated croup by many, I am inclined to consider as laryngitis. The following is the account given of it by the attending physicians, Drs. Craik and Dick.

"Sometime in the night of Friday the 13th instant, having been exposed to the rain on the preceding day, General Washington was attacked with an inflammatory affection of the upper part of the windpipe, called in technical language, *cynanche trachealis.* The disease commenced with a violent ague, accompanied with some pain in the upper and fore part of the throat, a sense of stricture in the same part, a cough, and a difficult rather than painful deglutition, which were soon succeeded by fever and a quick and laborious respiration. The necessity of blood-letting suggesting itself to the general, he procured a bleeder in the neighborhood, who took from his arm, in the night, twelve or fourteen ounces of blood. He would not by any means be prevailed upon by the family to send for the attending physician, till the following morning, who arrived at Mount Vernon at about eleven o'clock on Saturday. Discovering the case to be highly alarming, and foreseeing the fatal tendency of the disease, two consulting physicians were immediately sent for, who arrived, one at half after three, the other at four o'clock in the afternoon. In the interim were employed two copious bleedings, a blister was applied to the part affected, two moderate doses of calomel were given, and an injection was administered, which operated on the lower intestines: but all without any perceptible advantage; the respiration becoming still more difficult and distressing. Upon the arrival of the first of the consulting physicians, it was agreed, as there was yet no signs of accumulation in the bronchial vessels of the lungs, to try the result of another bleeding, when about thirty-two ounces of blood were drawn, without the smallest apparent alleviation of the disease. Vapors of vinegar and water were frequently inhaled, ten grains of calomel were given, succeeded by repeated doses of emetic tartar, amounting, in all, to five or six grains, with no other effect than a copious discharge from the bowels.

Aneurism. Aneurisms in the neighborhood of the larynx, occasionally give rise to all the symptoms of laryngitis. Bayle relates the particulars of a case in which these symptoms were occasioned by an aneurism of the aorta pressing upon the trachea. On dissection, the larynx was ascertained to be perfectly healthy.* Mr. Lawrence furnishes us with an instance in which similar effects were produced by an aneurism of the arteria innominata.†

Mr. Wood says, "I know an instance where this mistake led to the performance of tracheotomy, which was attended with the bursting of the aneurism into the trachea; and from a preparation which I lately saw in the College of Surgeons, it appears probable that the same unexpected event must have annoyed another practitioner. In this preparation there is an artificial opening in the larynx; just above the bifurcation of the trachea, another opening is seen to communicate with the cavity of the ruptured sac of an aneurism."‡

Dr. Hope states that tracheotomy has several times been performed with the view of obviating suffocation produced by aneurism of the aorta. More striking facts need not be stated, to show the importance of a correct diagnosis in these cases.§

An abscess in the neighborhood of the larynx. This has been known to produce the symptoms of laryngitis. A case is mentioned in the Edinburgh Medical and Surgical Journal, in which the sac of an abscess was found attached to the under surface of the muscles covering the thyroid cartilage, being reflected over that cartilage, and bounding nearly the extent of the os hyoides. It contained about half an ounce of pus. It produced all the symptoms of inflammation of the larynx, and the patient died of it. The trachea and larynx, on dissection, did not discover any unusual vascularity; they contained only some common mucus; the sacculi laryngis were filled with pus.‖

Treatment. As this disease consists in an inflammation of the larynx, terminating in effusions, which so far close the rima glottidis

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The powers of life seemed now manifestly yielding to the force of the disorder. Blisters were applied to the extremities, together with a cataplasm of bran and vinegar to the throat. Speaking, which was painful from the beginning, now became almost impracticable; respiration grew more and more contracted and imperfect, till half past eleven o'clock on Saturday night, when, retaining the full possession of his intellect, he expired without a struggle.

"He was fully impressed at the beginning of his complaint, as well as through every succeeding stage of it, that its conclusion would be mortal, submitting to the several exertions made for his recovery rather as a duty than from any expectations of their efficacy. He considered the operations of death upon his system as coeval with the disease; and several hours before his decease, after repeated efforts to be understood, succeeded in expressing a desire that he might be permitted to die without interruption.

"During the short period of his illness, he economized his time in the arrangement of such few concerns as required his attention, with the utmost serenity, and anticipated his approaching dissolution with every demonstration of that equanimity for which his whole life had been so uniformly and singularly conspicuous." (New York Medical Repository, vol. 3, p. 311.)

* Nouveau Journal de Médecine, Janvier, 1819, p. 51.

† Medico-Chirurgical Transactions, vol. 6, p. 227.

‡ Medico-Chirurgical Transactions of London, vol. 17, p. 175.

§ On this point I must refer to the valuable work of Dr. J. Hope, "on the diseases of the Heart and Great Vessels."

‖ Edinburgh Medical and Surgical Journal, vol. 16, p. 156.

as to interrupt regular and healthy respiration, our indications of cure seem to be simple and clear. They are, in the first place, to arrest if possible, the progress of inflammation, and thus prevent effusion; and, if we should fail in this object, in the second place, by means of an artificial opening in the trachea, to enable the patient to breathe until the obstructions in the larynx may be removed, either by the process of absorption, or by the aid of medicine. Our means for accomplishing the first of these objects are bloodletting, emetics, cathartics, blisters, and mercury. The second requires the operation of tracheotomy.

Although the general principles of treating this disease appear to be thus obvious, yet the little success which has hitherto attended the management of it, even in the hands of the most distinguished professional men, is a sufficient apology for entering upon this part of our subject somewhat more in detail.

Bloodletting. Although almost every writer who has treated of this subject has assigned the first place to bloodletting, and although there are few practitioners who, when called to a case, would not immediately have recourse to this powerful agent; yet it must be conceded, that it does not appear, as the result of impartial experience, that this remedy, even when very liberally employed, has been attended with that decided advantage which might naturally have been expected. Dr. Armstrong informs us, that out of six cases, there was only one in which venesection was conspicuously serviceable; and in almost all the fatal cases that are recorded, it will be found that this remedy has been pretty freely used. Conceding all this, it does not justify the unfavorable inference which has been drawn by some against the use of bloodletting. Like every other agent in medicine, bloodletting differs entirely in its effects, according to the extent to which it is carried, as well as according to the stage of the disorder in which it is used. And I am inclined to believe, as well from theory as from experience, that in many instances of this disease, where the use of venesection has not been attended with any beneficial consequences, it may be attributed either to its not having been carried to a sufficient extent in the first instance, or to its having been used at that stage of the disorder when organic changes had already taken place, and when, of course, instead of doing any good, it must be productive of positive injury. In speaking of the extent to which bloodletting ought to be pushed, I do not refer at all to the *absolute quantity* of blood which may be drawn, but entirely to the *effect* produced upon the system. This effect is syncope; and in all cases where the condition of the patient does not absolutely contra-indicate the measure, to bring about this should be the object of the practitioner. The insidious nature of the first periods of this disease, and the rapid progress which it makes to effusion, ought to convince the medical attendant that nothing short of the boldest treatment can rescue his patient from destruction. By ordinary bloodletting it is scarcely possible to reach the seat of disease, remote and circumscribed as it is in the larynx. Even supposing, however, that such a bleeding could reach it, its only effect would be to *moderate* the action in the part. That it could not *arrest* its progress must be evident, when it is recollected how very slight a degree of inflammation in the larynx will produce all the dreadful consequences attendant upon this affection.

The very same reasons which induce me to consider that the ordinary abstraction of blood can be attended with no great benefit in this disease, convince me of the high and unequivocal advantages which result from carrying it ad deliquium. When this effect is produced, the most distant as well as the minutest parts of the system come within the sphere of its influence; it not merely moderates, but it suspends and alters existing actions, at the same time that it relaxes spasm, a symptom which, in a greater or less degree, always accompanies inflammation of the larynx.

In those unfortunate cases where effusion has already taken place under the mucous membrane of the larynx, constituting the œdematous condition of these parts, it is evident that bleeding, however practised, can be of but little service; yet even here, as it is impossible to know positively that such effusion has actually occurred, it may be considered in every respect as the safest practice, and certainly the one promising the greatest chance of relief, to have recourse to a single bleeding, which shall be felt at once throughout the system, rather than to repeated bleedings, the only effect of which must be to weaken and finally exhaust the strength of the patient.

There is another consideration, too, in connection with this point, of considerable importance. If it shall be found, after bleeding ad deliquium, that the symptoms are not mitigated, it may with great probability be inferred that such effusion has already taken place, and that other means of relief must accordingly be resorted to. The value of any test by which to judge of the actual state of the parts, and of the progress which the disease has made, can only be appreciated by those to whose lot it has fallen to witness the march of this terrific disorder. No such inference can be drawn from the effect of bleeding, which is not carried to the extent already proposed. As the object here ought to be, to induce syncope with the least sacrifice of the patient's strength, it is proper to suggest that he should be bled while standing, and from a large orifice. As auxiliaries to general depletion, the local abstraction of blood from the throat by leeches, may be used with advantage, especially where it is not considered advisable to carry general bleeding to any further extent.

Emetics. Next to bloodletting, emetics are the remedies best calculated to afford prompt and decided relief; and they do so, not merely by the relaxing effects which they have upon the whole system, but by the copious secretions which they produce from the mouth and fauces. By most writers they do not seem, however, to have been treated with anything like the importance justly due to them. In most of the individual cases of the disease which have been published, especially those in Great Britain, emetics are not to be found among the articles which were resorted to. Dr. Armstrong is the only modern writer who insists upon their use in a manner at all proportioned to their value; and he states that he was induced to try them in the commencement of the disorder, from the want of success which had previously attended him in several cases, where he had relied upon copious bloodletting. His practice consisted in giving tartarized antimony combined with ipecacuanha, in repeated doses, until free and frequent vomiting took place. "No circumstance," he adds, "in my professional life ever gratified me more, than the great and sudden relief which the vomiting afforded; in reality it removed all the urgent symptoms at the

time, and being excited as soon as even the slightest signs of stricture returned, at last completed the recovery."* Subsequent experience seems to have convinced this very accomplished physician, that in cases where the inflammation runs high, it is not perfectly safe to rely upon emetics alone, to the exclusion of the ordinary means for subduing inflammatory action. That cases may sometimes occur, in which emetics, unaided by other remedies, may be fully adequate to the removal of the disease, is no doubt true; but as a general rule, the best plan is to premise a copious bleeding, which besides the effect it produces upon the disease itself, is the most efficacious means of preparing the system for the prompt and salutary operation of emetics, an object certainly of very great consequence, and one which perhaps is not sufficiently regarded in practice.

Purgatives. Besides unloading the intestinal canal of whatever offensive matter may be present, purgatives may prove beneficial, by lowering the general action of the system, and by creating a new centre of irritation, and thereby diverting the flow of blood from the parts laboring under disease. It is in this latter way chiefly that purgatives prove of use in laryngitis. Too much dependence, however, should not be placed upon them, inasmuch as they can at best exercise but a remote influence over the disease, while, from the slowness of their operation, much valuable time may be lost in securing the safety of the patient by other and more efficacious means.

Blisters. It has become so much a matter of course to apply blisters in all cases of local inflammation, that to call in question the propriety or efficacy of the practice, may appear to savor of skepticism, in relation to remedies sanctioned by time and experience. Nevertheless, it is very questionable whether, in the disease under consideration, blisters have proved of that unequivocal utility which, by some, has been attributed to them. In many of the cases which have terminated fatally, they have been used, and in some to a very unexampled extent. Notwithstanding this, the application of blisters appears to have been attended, in some cases, with decided benefit. By Sir Gilbert Blane, great importance is attached to them; and in recommending them, he insists particularly upon their being of a large size.† As auxiliaries, they may unquestionably prove advantageous, and it is important therefore to determine at what stage of the disease they are most proper, and where they should be applied. From the rapidity with which the disease runs its course, it is perfectly obvious that if they are to do any good at all, they must be applied very early. The best practice therefore is to apply them immediately after venesection. With regard to the part to which they should be applied, if the effects of a blister be, as they undoubtedly are, to excite local irritation, and, as a consequence of this, to produce a current of fluids to the blistered part, then it would seem to be self-evident, that they should never be placed too near the original seat of disease, as their effect must necessarily be that of increasing the afflux of the fluids upon organs already laboring and oppressed from this very cause. In the

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* Practical Illustrations of typhus fever, etc. by John Armstrong, M. D., etc., p. 336. American edition.

† Medico-Chirurgical Transactions of London, vol. 6, p. 146.

case of laryngitis, from the vicinity of the diseased organ to the surface over it, it appears plain that the application of a blister to the throat must increase the determination of blood to the larynx; and if this is the fact, the practice is very clearly improper. Independently of this consideration, the application of a blister to the throat may be rendered objectionable by its interfering with the use of leeches should they be deemed necessary. The situations most appropriate, perhaps, for this remedy, are the chest, and back of the neck; and that some substantial good may be derived from them, they should be of a *large size*, and kept running during the disease.

Calomel. After the use of depletion and emetics, there is no article which can be trusted to with such just confidence as calomel. To be effectual in this disease, however, it must not be used with a timid hand. From the great rapidity with which the disease frequently runs its career, it is evident, that unless introduced with such decision as to bring the system speedily under its influence, mercury can be of no service. It should be commenced with, therefore, early in the disease, and should be unwaveringly persisted in, until this object is accomplished. There is nothing which can supply its place, and scarcely any symptom which can contra-indicate its use. With regard to the extent to which mercury should be carried, I would insist in an especial manner upon the necessity of producing free ptyalism in every case where it can be effected. Independently of its being the only certain criterion by which to judge that the system is under its influence, the greatest advantages are to be expected from the copious secretions which are thus produced from the glands of the mouth and throat. At any rate, whether it be explained upon this principle or not, it is only when carried to this extent, that calomel has proved successful. In many cases in which this remedy has been used, without, however, occasioning salivation, the disease has nevertheless terminated fatally. Yet I have not met with a single one which did not end favorably in which the mouth became affected.

Tracheotomy. When all our efforts at subduing the inflammation in the larynx have failed, and we find the obstructions to respiration constantly increasing, the only resource left is, to make an artificial opening into the windpipe. That this may be done without the least hazard, has been proved by multiplied experiments,* and the success which has already attended its employment in laryngitis, should encourage us to a repetition of it in all cases where other means have proved ineffectual. There are two circumstances more particularly deserving of attention in relation to this operation, and on which its success may be said principally to depend. *The first is, that it should not be delayed until the last stages of the disease,* when the patient is already sinking under the prostrating effects of long-impeded respiration. To perform the operation under these circumstances, may indeed display the dexterity of the surgeon, but it can be of no benefit to the suffering patient. Whoever has attentively read the histories of the cases which

* For an elaborate detail of facts on this point, see an interesting paper by William Lawrence, Esq., in the Medico-Chirurg. Transactions of London, vol. 6, p. 221. See also a valuable paper on Bronchotomy as connected with inflammation of the larynx, by John Wood, of St. Bartholomew's Hospital, in the Medico-Chirurgical Transactions, vol. 17, p. 138.

are upon record, cannot but have been forcibly struck with the truth of this remark. Dr. Baillie suggested, that if no substantial benefit was gained from medicine in thirty hours, the operation of bronchotomy might be resorted to. It is evident, however, that no general rule can be laid down or observed on this subject. In some cases it may be delayed much longer, while in others, to wait this length of time would be attended with the loss of the patient's life. Everything, of course, must be decided by the existing emergencies of the case. *The other circumstance to which I allude, is the size of the opening made into the trachea.* In the ordinary way in which the operation is performed, the orifice speedily closes, or if kept open by a canula, the presence of this foreign body inevitably produces great irritation in the parts, and thus jeopardizes its ultimate success. To obviate these effects, Mr. Carmichael, in a recent case of laryngitis, made a large opening into the trachea, by cutting away portions of the rings. The complete success which attended the case, together with the just reasoning of that distinguished surgeon in relation to it, is sufficient to establish it as a great improvement in the mode of performing this operation.*

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* I cannot do better than quote the interesting account of this operation as furnished by Mr. Carmichael.

"Having ascertained the lower edge of the thyroid gland, an incision, about an inch and a half in length, was made through the integuments from this point to within a finger's breadth of the sternum. The incision was continued between the sterno-hyoidei and the sterno-thyroidei muscles, until the rings of the trachea were fairly exposed. This momentous part of the operation was performed in a few seconds: for with the aid of my assistants, who separated the lips of the wound by means of retractors, I was enabled to see the parts which it was necessary to divide; and by the forefinger of the left hand I successively felt each part previous to the application of the knife, the edge of which, after the division of the skin, was directed constantly upwards during the subsequent parts of the operation; and these precautions were a sufficient security against wounding the arteria innominata, which sometimes rises above the sternum, or from dividing any known or anomalous arterial branch of magnitude which might course in front of the trachea.

"This was all happily accomplished, with very little delay, and the loss of a very few drops of blood, notwithstanding the difficulty which the perpetual motion of the trachea opposes in a person incessantly gasping for breath: two, or perhaps three, of the rings of the trachea, were then divided from below upwards, and this opening was immediately widened by means of a large pair of sharp-pointed scissors, such as I employ for the operation of hare-lip. With these I had provided myself, knowing from previous operations the difficulty of removing by the knife a slip of the rings of the trachea, as recommended by Mr. Lawrence. Some little address is necessary in performing this part of the operation. The sharp point of one blade was introduced at the lowest part of the opening in the trachea, and directed outward so far as to admit, on the closing of the blades, of the division of an extent of the tracheal rings, equal to one half of the opening already made in them; the flap thus made was laid hold of by a pair of dissecting forceps; the point of the scissors was again introduced into the trachea, where the last incision terminated, and carried inwards towards the central opening. Similar incisions in the same manner were made on the opposite side, and a diamond-shaped opening, capable of admitting the point of the little finger with ease, was left in the trachea.

"The patient coughed up a large quantity of thick viscid phlegm through the opening, and seemed so much relieved, that the appearance of suffocation and excessive anxiety which her countenance displayed previous to the operation, immediately disappeared. I am satisfied, that if the operation had been confined in this, as well as in other instances which have occurred to me, to a mere division of the rings of the trachea, that no beneficial result could have followed the measure; and that even the introduction of a tube, which is objectionable on two accounts, would not be attended with any advantage; for, first, a tube excites intolerable irritation, with vio-

ART. II.—*Remarks on Typhus or Ship Fever, as observed at Bellevue Hospital, N. Y., in the Spring and Summer of* 1847. By LYMAN H. STONE, M. D., late Assistant Physician of Bellevue Hospital, Member of the New-York Pathological Society, etc., etc.

To the EDITOR of the NEW-YORK JOURNAL OF MEDICINE.—*Sir*,—In compliance with your request, I herewith send you a hastily-prepared sketch of Typhus Fever, as I observed it the past spring and summer at Bellevue Hospital. The history of this disease, as it occurred during the latter part of summer, has been pretty fully investigated; and as it presented a somewhat different aspect and complications in the early part of the season, I shall confine myself more particularly to the disease as it occurred in the spring months. In connection with the symptoms of this fever, I shall notice a few points only. And one symptom, which I do not remember to have seen noticed by any writer, is a distressing feeling of constriction within the chest, and preceding the formal onset of the disease. In my own case, I experienced this three times, at intervals of a few minutes, during the evening preceding my attack. Three patients have described to me the same sensation. It resembles very closely a transient paroxysm of Angina Pectoris, lasting from one to five minutes. Of these four cases, in three it preceded, and in one followed the initiatory chill. With regard to chills, they were usually the first thing noticed, except in some few cases, in which the approach was very gradual and insidious; but this mode of attack was very infrequent. In sporadic cases of Typhus or Typhoid fever—which I consider one and the same disease—I believe it the more common mode. I have no means of giving the proportion of cases in which chills occurred; but from notes of about one hundred cases, treated between the first of April and the twentieth of May, I make the following record, in connection with other symptoms. Of sixty-six cases, who were either attacked in the Hospital, or were admitted sufficiently early to note the whole course of the disease, the *lenticular eruption* was observed in fifty-eight. By the lenticular eruption I mean the small, lenticular-shaped, yellow or red spots, usually the latter color. They are slight elevations, which disappear momentarily on pressure, and are characteristic of this disease; being scattered over the chest and abdomen, sometimes extending to the extremities, and too often confounded with and called petechiæ. They usually occur on the eighth day, though I have occasionally noticed them as early as the fourth and fifth days, and such cases have invariably been mild and convalescence early. In the only two fatal cases which I have seen in which this eruption was abundant, no addominal lesion was found. In one, no anatomical lesion whatever, and in the other, inflammation of the right lung. These both occurred in April.

In the above 66 cases, petechiæ were noticed in five and sudamina

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lent fits of coughing; and, secondly, the apertures in it cannot be sufficiently large to permit the expulsion of the viscid phlegm which accumulates in most of those cases where tracheotomy is necessary." (Transactions of the College of Physicians of Ireland, vol. 4, p. 312.)

in three instances. In two cases, petechiæ occurred alone; and in one, all three eruptions were present at the same time.

In one case, the sudamina appeared in the form of bullæ, covering the chest and abdomen, and varying from the size of a pin's head to that of a shilling piece. Later in the season, the petechial eruption was of much more frequent occurrence, but still *not* generally present.

In 64 cases, epistaxis was present in 23, usually slight. In two instances, in which it was free, the arterial action was great, with severe pain in the head and suffusion of the eyes. These symptoms were evidently relieved by the hemorrhage; these cases occurred early in the spring, and the patients were *not* recent immigrants.

In 64 cases, diarrhœa occurred in 51. This was rarely troublesome at that season, but during the summer months it was frequently a troublesome symptom.

Nausea was a frequent accompaniment, and vomiting was noticed in ten instances; though, later in the season, it was of more frequent occurrence.

Of these 100 cases, erysipelas supervened in ten instances, in two of which abscesses formed.

Inflammation of the parotids also occurred in eight cases, four of which went on to suppuration, and in one instance laid the bone of the lower-jaw bare for a space of two inches at the angle.

The few cases in which I noticed the slow, irregular, labored respiration, attended with a puffing out of the cheeks at each expiration, invariably proved fatal.

Gurgling could be detected on pressure over the ilio-cœcal valve in almost every case.

Retention of urine was not uncommon.

The delirium, usually low and muttering, sometimes became wild and furious. One patient dashed through the window and fell from the third story upon a stone pavement, without receiving any injury, and speedily recovered.

The pulse presented many varieties. In some, it was frequent and feeble from the first; in some, it had considerable force and fulness, especially in the early stage. Late in the disease, the grave cases presented two varieties: one, in which it was rather slow, with some degree of fulness; the other, more common, extremely frequent, feeble and flying. These two, I take it, indicated the two modes in which death took place. The first, accompanying those cases in which death took place by coma; and the latter, those in which it commenced at the heart, or death by asthenia, and in connection with another symptom afforded valuable indications in the treatment. The symptom referred to in the last sentence is, a *loss of the first sound of the heart.* This I noticed several times, and it usually occurred about the twelfth or fourteenth day. This may result from extremely feeble action of the heart, caused by defective innervation, or from a softening of that organ. For I have observed it in cases in which a post-mortem examination revealed softening, and in those in which it did not.

The tongue, in different cases and stages of the fever, presented almost every variety, which do not require mention. Subsultus tendinum frequently occurred, and I have not found it a symptom of such bad omen as it is usually considered.

The actual number of cases treated, and the mortality, cannot be accurately ascertained, as very little reliance can be placed upon the books of the Hospital, for at one time the number of patients was found to be one hundred and ninety less, upon actual count, than were indicated by the books—the records having been kept by patients too much given to drink. By a table which I prepared, May 12th, for another purpose,* I found the number, on personal inspection of the wards, to be "Two hundred and forty-five, a very large proportion of whom were convalescents."

This number gradually increased to probably about *five hundred* on the first of June, and then gradually decreased, so that not more than *seventy-five* cases remained on the 10th of August, including convalescents. And at this time the two large "fever-wards," which, on the first of June, contained *one hundred and sixty* patients, now contained only thirty-one. Of the patients who came under my care, about 12 per cent. died—not including about 25 who were upwards of forty years of age, of whom 28 per cent. died.

The disease is fatal, *ceteris paribus*, in proportion to the age of the patient. The following table of 100 patients, whose ages I have preserved, presents about the proportion at the different ages up to forty years; after that, the number is much too large.

Between the ages of	10	and	15—3,	of whom	0	died.
"	"	15	"	20—11,	"	0	"
"	"	20	"	25—18,	"	2	"
"	"	25	"	30—19,	"	2	"
"	"	30	"	35—8,	"	1	"
"	"	35	"	40—3,	"	1	"
"	"	40	"	45—4,	"	1	"
"	"	45	"	50—5,	"	2	"
"	"	50	"	55—1,	"	0	"
"	"	55	"	60—3,	"	1	"
"	"	60	"	65—3,	"	1	"
"	"	65	"	70—2,	"	1	"
Total,				80		12	

By this table it will be seen that 37, or nearly half of the whole number, were between the ages of 20 and 30 years. But the number above 40 years is much too large, and if it be reduced to the proper ratio, fully one half will be found included between the ages of 20 and 30. And this proportion, I think, will be found nearly correct.

In four instances, only, I think, I have seen the disease occur twice in the same person, and I attended a person during two attacks, who had suffered one previously, or at least the physician who attended him informed me that his sickness was Typhus fever, and he was well acquainted with this disease.

The subject of the contagiousness or non-contagiousness of Typhus fever, is one of much importance. The causes of disease are, in most instances, so obscure and inappreciable, that it is only by a large collation of facts that inferences worthy of confidence can be deduced; and upon our knowledge of the causes of disease, in a great measure,

* Annalist, May 15th, 1847.

depends prophylaxis. I have observed some facts which strongly support the doctrine of contagion. My own belief of the mode of its communication is this:—That it is necessary that the atmosphere surrounding the sick person should be inhaled, for a longer or shorter time. The poison is thus received into the blood, through the lungs, and is conveyed through the system, producing its deleterious effects in an especial manner upon the brain, and hence results the early and extreme prostration. I have known in one instance an attack follow the inhalation of an infected atmosphere for the space of five hours, but this is not common. Analogy, which proves nothing, but still affords strong confirmation, is in favor of its contagiousness. Like the indisputably contagious fevers, it rarely occurs twice in the same person; like them, it has its period of incubation, which is not determined, and is doubtless irregular; like them, it is attended with a characteristic eruption, which is pretty uniform in its presence and its period of occurrence; like them, it runs a certain course with considerable regularity; like them, too, it *cannot be cut short*, or in other words, cured. But it differs from the other contagious fevers in this, that none of the latter are attended with a heterologous deposit. True, Peyer's glands have been found enlarged in scarlatina, but I believe never ulcerated, and I am not aware that any deposit analagous to the typhus matter has been found in those cases. But Typhus fever cannot be classed with the other diseases attended with heterologous formations, for the former is acute and contagious, and the latter are chronic and non-contagious; in the former, the deposit is a late and not even necessary occurrence, in the latter it is primary and essentially *the disease*. But by considering the *condition of system* in the latter as the disease, and the deposit as the *result*, the analogy in part remains, except that in Typhus fever the processes are much more rapid. But the proper location of Typhus fever is doubtless intermediate between the contagious exanthems and the non-contagious diseases attended with a heterologous formation. Its contagiousness and eruption have not the same certainty and regularity as in smallpox, nor its deposit the uniformity and importance of tubercle. But, like the latter, it has its favorite locations. These are the glands, aggregate and solitary, of the small intestines, and especially of the lower portion of the ileum. But I am not prepared to say that it does not occur elsewhere, and indeed I am inclined to think that certain small, deep, circular ulcers, surrounded by apparently healthy tissue, which I have found in various parts of the alimentary mucous membrane, were caused by a deposit of typhus matter in the mucous glands, which had gone through the usual process of softening and discharge. But the ordinary softening and ulceration of the mucous membrane of the stomach, which occurs in this disease, I am inclined to attribute to defective innervation. During a second attack of "Ship-fever," which I suffered this summer, in which I am confident ulceration of Peyer's plates occurred, I noticed several small, rounded elevations in my mouth, which soon became small, deep, circular ulcers, which quickly healed.

But I will briefly relate a few of the many cases which have convinced me that Typhus fever is contagious—by this term I simply mean *communicable* from one person to another. About the first of February last I took charge of the female "fever-ward" at Bellevue Hospital. This is a large room fifty feet square, with an arched ceiling, I sup-

pose twenty feet high; having three doors, and windows in three sides, besides scuttles in the roof.

The ward was kept scrupulously clean, well ventilated, and at that time contained twenty patients, of whom twelve or fifteen were sick of Typhus fever. At that time three women, who had entered the ward as nurses, lay sick of Typhus fever of a severe form, all having been attacked within a fortnight after entering the ward. Just previous to my taking charge of this ward, a woman who had been in it with syphilis, was discharged cured. On the day after she left the hospital she was attacked with fever, and was brought in ten days afterwards, very delirious, with subsultus tendinum and retention of urine. Knowing that she had been habituated to the use of opium, I gave her morphine in grain doses with marked benefit. About this time the nurse of this ward left the hospital, and her place was supplied by an assistant-nurse from another ward. This person was selected for the reason that she had had a very severe attack of typhus fever in the hospital a year previous. About a fortnight afterwards she was again attacked with the same disease, and died the seventh day. After having charge of this ward for twelve days, I left it and took wards in another part of the hospital. Two days after this change I was attacked with a grave form of Typhus fever. About the middle of April, after my recovery, two very long wards, about twenty feet wide, which had formerly been appropriated to ulcers, were thoroughly cleansed and whitewashed, for the reception of fever cases. These wards have large windows on either side the whole length, and are the best ventilated and most airy wards in the hospital, being in the second and third stories of a long, narrow, separate building. In one of these wards at the time of this change, was a man with ulceration of the cartilages of the knee-joint, and, fearing the pain that moving would subject him to, he requested and was allowed to remain. Twenty-four hours after the fever cases began to come in, he became alarmed and requested to be removed to another part of the building in which there was no fever. It was accordingly done, yet one week afterwards he was attacked with and died of Typhus fever. Another man, who had a scrofulous abscess, was allowed to remain as nurse—he also was attacked and died. Another nurse in the same ward, who had been a long time in the hospital and suffered from Typhus fever *twice* previously, was again attacked. In the other ward I placed as nurse a man whose lip had been removed for cancer; the disease had returned, but his general health was still good. Ten days afterward he was attacked and died. I might mention many more similar cases, besides those which occurred among the penitentiary women, who were employed daily in cleaning the wards, but slept in a separate building at some distance from the hospital. Some of these were removed to the penitentiary hospital, and many cases of the fever subsequently occurred there. I was in charge of this hospital at the time, and, although nearly one half of the patients were affected with syphilis, I have not known one of these patients to be attacked with the fever. And I have known many such patients to remain with impunity in the fever wards at Bellevue. But I am not prepared to think that there is any antagonism between the two diseases. A clerk in the office where the patients sat while their names were entered on the books, suffered from the disease; also two boys who distributed medicines to the wards.

But two physicians, of those *who had much to do with the treatment* of this disease at Bellevue, escaped it. Of those two, one had suffered from the disease while an assistant physician at Bellevue two years previous. The other was *an exception to the general rule.* Two of the assistant physicians were attacked while on duty at the new alms-house on Blackwell's Island, where the air was pure, the wards not crowded, and but few cases of the fever. The first physician who lost his life in the service of this *very generous and grateful city,* at Bellevue, the past season, had suffered severely from Typhus fever about a year previous. The other officers escaped for the reason that they *did not expose themselves,* except the matron.

During nearly a year that I was an assistant physician at Bellevue hospital, I never saw a case of Typhus fever originate in a ward in which there was not already one or more cases. Several cases broke out in the "adjacent alms-house building," it is true, but many immigrants came direct from on board ship, and were allowed to remain in the alms-house building, instead of being sent to the hospital. So much for its contagiousness. With regard to the morbid appearances observed after death from this disease, they presented marked differences during the spring and summer months. In the autopsies of twenty-four persons, mostly males, who died of typhus fever between the middle of April and the middle of May, I found the following lesions, viz.:

Marked softening of the heart in . . .	5
Inflammation of the lungs or pleuræ, or both, in .	4
Engorgement or softening, or both, of the liver, in .	6
Enlargement or softening, or both, of the spleen, in .	16
Ulceration of Peyer's glands in . . .	6
Ulceration of the mucous membrane of the stomach in	3
Perforation of the intestine, and consequent peritonitis, in	1

The same thing (perforation) I found once previous and once subsequent to the time included in the above record. The lungs were found much congested and the heart slightly softened in several instances not noted above.

In the few instances in which I examined the brain of those who had presented the most marked cerebral symptoms, no lesion was found except a slight effusion of serum into the ventricles, and an injection of the vessels of the pia mater. Later in the season, inflammation of the brain and its membranes frequently occurred, as did also effusions into its ventricles and substance. At that time my health was such as not to permit me to continue my post-mortem observations. The first case which I saw in which inflammation of the brain occurred, was in July, and the symptoms struck me as something which I had not before seen. The symptoms commenced soon after the patient began to convalesce, with obstinate constipation and vomiting, which continued two days, when coma, spasmodic twitchings of muscles, strabismus, and dilatation of the pupils came on, followed by death.

In July, I saw one case in which dry gangrene occurred in the foot in a young person.

In two cases in which dysentery supervened during convalescence, extensive ulceration of the mucous membrane of the large intestines was found, also some recently-healed, and some still open ulcers of Peyer's glands. The open ulcers were farthest from the cœcum—thus con-

firming the opinion that those nearest the large intestine, are the first to ulcerate and the first to heal. And in this connexion I may state, that I have always found the disease most extensive and farther advanced in this part of the tube. In both of these cases the mucous membrane of the rectum was extensively destroyed by ulceration. Higher up the intestine the ulcers became less frequent, and at last disappeared. The upper ones were small, deep, circular, and surrounded by apparently-healthy tissue.

May not the mucous glands of this portion of the intestines have been the seat of a deposit similar to what occurred in Peyer's plates, and this ulceration occurred from its softening? I have seen in autopsies of some cases of dysentery, which occurred on board emigrant ships, in which fever also prevailed, in addition to extensive ulceration, many small elevations, which were evidently mucous glands distended with altered mucous or other fluid. Among these were scattered small ulcers like those mentioned above. Did these cases take the place of fever? They certainly very much resembled Typhus fever, with the addition of the dysenteric symptoms.

The mesenteric glands were enlarged and sometimes inflamed when Peyer's were affected.

Rarely extensive lesions of the abdominal and thoracic organs occurred in the same case.

I never saw the blood, after death, healthy in appearance and well coagulated.

With respect to the *treatment* of this disease, I would willingly leave that subject to others whose views would be authority for those whose opportunities for observing this fever had been limited. Any person of ordinary powers of observation, and possessing the *necessary industry*, can note and record symptoms and morbid appearances; but the treatment of diseases requires a more matured judgment. But having for months lived in the midst of, and faithfully and earnestly studied this disease in all its phases, I wish to enter my protest most decidedly and emphatically against the *mischievous activity* of treatment, by some recommended and pursued in it. The notion that because a man has a fever he must be bled, vomited and purged, and these measures, one or all, repeated again and again as long as the disease continues, is not so thoroughly exploded and obsolete as many in the profession think. That some cases of Typhus fever require such means, is true; and it is also true that many cases which do not require them, will recover under their use, as the active and exclusive modes of treatment pursued by some of the French physicians prove—nay, more, cases have recovered, to my certain knowledge, under the treatment of some *American practitioners*, which was certainly very active but not exclusive, as nearly all the active measures were put in most vigorous operation. But the number of cases occurring among immigrants the past season, which would tolerate such treatment, was very few. Still, unceasing vigilance on the part of the physician is indispensable in this disease. To watch and guide the case, to combat untoward symptoms and dangerous complications, and conduct it to a safe termination, afford "full scope and ample verge" for the display of the most profound sagacity.

I will briefly sketch the mode in which I treated some of the different cases and complications. General blood-letting and active purga-

tion I never resorted to, although we were duly impressed, by those in authority, with the practicability of "*breaking up*" the fever in the first stage by the use of the lancet, tartar emetic, calomel, jalap and gamboge. I have never seen the disease so broken up, but I think I have seen the patient's *powers of endurance* effectually *broken up* by these means. Most of the cases came within two general classes; the first including those who were admitted early, the young and those possessing considerable vigor of system; the second, those who were admitted late in the disease, the old, the half-famished and debilitated. In a very few cases of the first class, in which the arterial action was high, with violent throbbing pain in the head and suffusion of the eyes, the application of cups to the temples afforded relief. In a few instances in which there was reason to suspect a loaded state of the stomach, an emetic of ipecacuanha was ordered. If the bowels were confined, a mild cathartic was administered; in some cases a small dose of calomel, followed by castor oil, but the latter I usually gave alone, and in a majority of cases one or two drachms was quite sufficient. But in most cases enemata were sufficient and preferable, as I think the torpor confined mostly to the large intestines, from the fact that I have almost always found the small intestines empty after death. During the febrile excitement, refrigerants and diaphoretics were given, as the effervescing draught or spirit of mindererus—usually the latter, from the convenience of administering it. But if I were compelled to choose in the treatment of this first class of patients, between all these means on the one side, and ice and cold water on the other, I would much prefer the latter.

Let the patient's head be shaved or his hair cut close; and if it is hot and painful, apply bladders filled with pounded ice; let the entire surface of the body be often sponged with cold water; let the patient chew bits of ice and swallow small draughts of iced water. These are not only very agreeable to the patient, but are powerfully remedial. The excessive heat and thirst are assuaged; the delirium, restlessness and nausea are also allayed in most cases. The comfort and safety of the patient is ensured, without drawing upon the already heavily-taxed vital powers. During this time the patient was confined to bland, nutricious drinks, as toast-water, barley-water, etc. If free, warm perspiration occurred, the pulse continuing good, I felt little alarm for the safety of the patient, *provided* I could control his inclination to gorge himself with food during convalescence, a thing not always easy, especially when friends were allowed to visit them. A relapse in the severe cases, brought on by over-eating during convalescence, generally terminated fatally. In the second class, where the vital powers were feeble and failing, prompt and continued support and stimulation by the use of strong animal broths, beef-tea, wine-whey, brandy and ammonia, afforded the only hope of success.

As a stimulus I prefer, in most cases, brandy and ammonia. Under the free use of these I have seen absolutely hopeless cases recover. In some instances, patients admitted into the hospital in a state bordering on dissolution, cold, livid, and covered in spots with a clammy sweat, pulse imperceptible at the wrist, and so insensible that the point of the finger placed upon the eyeball would not excite muscular contractions, have revived under the administration of two or three grains of carbonate of ammonia and half an ounce of brandy, properly diluted, every

ten, fifteen or thirty minutes. Even in these cases liquids will generally find their way into the stomach if put into the mouth, and after one or two doses, if the medicine is going to be of any benefit, the patient will swallow without much difficulty.

The best indications for the use of these remedies are a frequent, feeble and flying pulse, coldness of the extremities, breaking out of a clammy sweat, and a loss of the first sound of the heart. With proper caution their use may be commenced in the case of old and extremely debilitated patients very early. If at any time they cause increase of fever, restlessness and delirium, their use must be suspended. *Good* wines in the form of wine-whey are preferable in some instances.

When inflammation of the lungs or pleura occurred, I treated them chiefly by cupping, and poultices composed of variable proportions of flaxseed meal and mustard. Inflammation of the parotids, by leeching and warm fomentations or poultices. Erysipelas, by warm poultices and especially yeast poultices. I never applied but one blister to a patient sick of typhus fever, and that was to the shaven scalp of one lying comatose. I have seen so *little good* and so *much harm* follow their use, that I will not employ them, except in rare cases.

Of the *ten* cases before mentioned in which erysipelas occurred, *seven* recovered; and of the *eight* in which inflammation of the parotids occurred, *two* died.

Of the necessity of proper ventilation it is unnecessary to speak. But in seeking for ventilation, undue exposure should be avoided. The employment of tents at Bellevue the past season, sufficiently attested the necessity of this caution. A large number of tents were pitched about the first of June, which were small, and contained one or two patients each. No one will doubt that sufficient ventilation was obtained, but the condition of the patients was worse, I fear, than in the crowded wards. Convalescents principally were treated in the tents, and I now have before me a list of twenty-eight which I selected from one ward containing sixty-five, and sent into them when first erected. Going thus from the more equable temperature of the wards to the tents, the extreme heat of which by day, produced by the direct rays of the sun, and the cold and dampness of the nights, tended to light up inflammations, especially of the pulmonary organs, which materially increased the danger. To be convinced of this fact, one had only to stand on the steps of the hospital on a damp evening, and listen to the *coughing* which could be heard from the tents.

Nor will patients bear with impunity the same exposure during convalescence that they would during the height of the fever.

Having thus hastily sketched a few facts in connection with this fever, I close with a few conclusions which I have formed from studying it here and in New England.

1st. That Typhus and Typhoid fevers, so called, are identical.

2d. That this fever may occur in any degree of severity, but, extremes excepted, its course is pretty uniform.

3d. That no one symptom or lesion is necessarily present.

4th. That it is decidedly contagious.

5th. That it rarely, though sometimes, occurs a second time in the same person; and when it does occur a second time, the attack is of shorter duration than the first.

6th. That the access of the disease is much more sudden and well-defined when caused by contagion than in sporadic cases.

7th. That the lesion of Peyer's glands is not essential, and that death may take place from this fever, and leave no apparent lesion of the solids.

8th. That in fatal cases, ulceration of Peyer's glands *cannot* be diagnosticated, but that in cases which recover, it may be suspected from the following symptoms: slow and prolonged convalescence; pain in the abdomen, and diarrhœa after eating, especially if the food is not of the blandest kind; lack of restoration of the appetite; tongue coated and taste vitiated; ulcerations as before described occurring in the mouth. I well remember the cases of two young men, who arrived in the same ship, were both attacked about the same time and lay side by side in one of my wards, and died with an interval of twenty hours between their deaths. Each had diarrhœa, tympanitis, and complained about equally of pain on pressure of the abdomen. On examination, one was found to have extensive ulceration of Peyer's glands, and the other not a trace. In the former the lenticular eruption was slight, in the latter abundant.

9th. That profuse lenticular eruption seems in a measure to alternate with abdominal lesions—simple congestion excepted.

10th. That this alternation is not observed with regard to petechiæ.

11th. That the fluids, and especially the blood, are never found in a normal condition.

12th. That the disease, as it has occurred the past season, presented much more of an *inflammatory character* in the spring than in the summer months.

13th. That this disease cannot be cut short, or in other words, cured; and that in the present state of our knowledge, the expectant and rational plan of treatment affords much the best chance of conducting it to a safe termination.

Art. III.—*Cases in Surgical Practice.* By R. L. Howard, M. D., Professor of Surgery in the Willoughby Medical College of Columbus, Ohio.

Case 1. *Immobility of the Lower Jaw.*—M. B. S., aged 9 years, on the 13th of May, 1846, was brought from Sunbury, Delaware co., O., for the purpose of consulting me respecting an immobility of his lower jaw. The history of the case is briefly as follows:—Six years ago, when the boy was but three years old, he was attacked with some disease for which the physician thought proper to administer calomel, which, it is said, he continued to exhibit for fourteen days in succession. The consequence was, a most violent ptyalism supervened, together with inflammation and sloughing of the inner portions of the cheeks, and exfoliation of the alveolary processes of many of the molar teeth. During the process of cicatrization, strong inelastic bands formed on both sides, but much the most extensive on the left. These bands were attached to the jaws above and below, and bound them firmly together. The integuments on neither side had ever been attacked by gangrene.

As the boy, though quite spare and delicate, seemed perfectly heal-

thy, I resolved to overcome this apparent anchylosis by an operation. Accordingly, with the assistance of Prof. Judkins of Cincinnati, and Prof. Butterfield of Willoughby, I proceeded at once to the undertaking. Being seated in a common chair, with his head thrown back and held by an assistant, Dr. Judkins insinuated a thin pine wedge between his incisor teeth, for the purpose of putting the parts upon the stretch and separating the jaws, while I divided the connecting bands. I at first introduced my bistoury along the lower jaw, and with a few sawing motions separated the whole adventitious substance from it. Turning the instrument upward, I divided the parts in the same manner from the upper jaw, both of which were now separated to the distance of half an inch. I now seized the apparently ligamentous cicatrix, which was attached alone to the inner surface of the cheek, and dissected it out entire.—Turning my finger upon the right side, I found a band of less extent and firmness, which I freely divided by one or two incisions. I was not yet able to separate the jaws as widely as I desired. Passing my finger backward again on the left side, I found the anterior margin of the masseter muscle offered very firm resistance. I divided it from the jaw, as far as seemed to be necessary, when we were able to bring it down as far as we desired.

I now introduced a pine block something over an inch in thickness, between the edges of the incisor teeth, and placed the little fellow in bed.

May 20th. The case has done well. The block has been kept between the teeth three-fourths of the time, and I have no doubt, if the parts are kept upon the stretch most of the time until they are perfectly healed, the operation will be entirely successful.

If the case proves successful, I shall attribute the success to two things: 1st, the entire removal of the cicatrix; and, 2d, to the permanent separation of the jaws until the parts were healed. Very many operations for the removal of this difficulty have, within my observation, proved unsuccessful; and I apprehend that they terminated thus unfortunately, from a neglect of the very procedures which I consider of so much importance.

Case 2. *Tumor of the Orbit.*—Mrs. Rebecca Pope, aged 40 years —of light complexion, spare habit, and the mother of several children.

This lady was brought from Fairfield co., O., to Columbus, about one year ago, at the time when the Ohio State Medical Convention was in session, for the purpose of consulting some of its members concerning a large and nodulated tumor which completely filled the orbit of the left eye. The history of the case is nearly as follows:—At the early age of twelve years, she noticed the sight of the left eye began to fail, and continued to do so until she was seventeen, when the sight was entirely lost, and the eye itself so prominent that her physicians supposed it to be a dropsical enlargement, for which they punctured the globe. Nothing escaped of consequence, but a violent inflammation supervened, which occasioned a collapse and atrophy of the organ. For about twenty years she experienced no particular inconvenience from it; but about two years previous to her visit to Columbus, she began to feel some uneasiness and pain, together with a decided increase of morbid growth in the socket. The symptoms became so alarming, that she now resolved to seek relief.

At that time she was visited and examined by Drs. Mussey and Judkins, of Cincinnati, and several of the older members of the Convention, who were unanimously of the opinion that the tumor was *probably* malignant, and that the only chance of relief would be found in an immediate extirpation.

The tumor itself completely filled the orbit, and projected considerably beyond the brow and malar prominence. It seemed firmly fixed in its position, and quite immovable.—Upon its anterior surface was imbedded the globe, flattened and diminished to one-eighth its natural size. The palpebræ were widely separated, and unable to cover the tumor.

In consultation, I agreed with all the other medical gentlemen, that the entire morbid growth should be removed with the knife, and advised her to submit to an operation which would afford a fair, or, at least, the *only* prospect of cure, to which she with but little delay consented.

With the assistance of my friends Drs. Schenck, Smith, Denig, and Taylor, and in the presence of several medical students, I proceeded, on the 24th of May, 1845, to extirpate the eye and tumor. The patient was placed in an easy chair, with her head thrown back, and held by an assistant. The external commissure of the lids was divided backwards; the bistoury was then passed between the tumor and the walls of the orbit, nearly to the bottom of the socket, and carried carefully around it until it arrived at the place of entrance. A little dissection with the point of the instrument removed the entire contents of the orbit. The hæmorrhage was not profuse, and the patient bore her suffering with remarkable fortitude. The cavity was lightly filled with lint, suitable dressings applied, and the patient laid in bed. As the pain in the part was severe, one-third of a grain of morphine was administered, which soon afforded relief, when she expressed herself as exceedingly gratified that she had submitted to the operation.

May 25th, morning.—Rested but little during the night.—Nausea and vomiting, pain in the head and general distress had all supervened to an alarming degree. Appropriate remedies were prescribed to allay the irritation of the stomach, and divert the tendency to cerebral disease, but to little purpose. During the afternoon she exhibited symptoms of approaching delirium, and in the evening her mind was decidedly wandering. Prescribed twenty grs. calomel, in divided doses, sinapisms to the extremities, cold water to the head, and blister to the nape of the neck.

26th.—Calomel had operated freely—mind more calm and collected, but not perfectly rational. A general distress and restlessness pervaded the whole system. No arterial excitement or general re-action had yet taken place. Pulse varied from 90 to 120. During the day, symptoms of cerebral disturbance and organic disease increased. In the evening, at my request, my friends Drs. Parsons and Smith saw her with me, in consultation. Similar measures were continued, with the addition of ammonia, and other diffusible stimulants.

27th.—She had no rest during the night; pulse diminished in force and frequency; mind more incoherent and comatose; secretions all scanty and vitiated. Wound examined, and found livid and flabby, and exhibiting no signs of reparation.

These symptoms and others, indicating approaching dissolution, increased, in spite of all treatment, until the 29th, the sixth day after the operation, when the patient died, apparently from inflammation of the brain. To my extreme regret, a post-mortem examination could not be obtained.

On examination of the morbid growth, the disease was found to consist of a tumor the size of a small orange, which commenced in the centre of the optic nerve, between its exit from the foramen opticum, and its entrance into the globe of the eye.

As the tumor increased in size, the neuralema and nervous filaments yielded, and became so expanded over the whole periphery of the tumor, as to form a complete tunic. On dividing this covering, the morbid structure was easily separated from it. Its color was nearly that of chocolate, and of the consistence of liver. Its organization was very imperfect, being easily broken down with the finger, and permeated in many parts by irregular sinuosities. Whether or not the idea is correct, it is impossible to determine, but I was impressed with the suggestion that this abnormal growth might have arisen from the organization of a small quantity of blood, which might have been extravasated in the substance of the nerve, occasioned by an early rupture of the *arteria centralis retina.*

This case is interesting in many respects; but particularly that the patient, after a complete and speedy removal of a tumor of the orbit, apparently in no way connected with the brain, should die so suddenly from inflammation of that organ. A post-mortem examination would probably have revealed the fact that organic disease had already committed fatal ravages within the cranium.

Case 3. *Urinary Calculus in the Female.*—On the 18th of January, 1845, I was requested to visit a lady who was said to be afflicted with *gravel.* I did so; and on introducing the sound, I immediately detected a large stone in the bladder. For about five years, she had been suffering from all that train of distressing symptoms which characterize this affection. For the last few months they were particularly aggravated. Her form had become emaciated, her skin sallow and dry, digestive organs greatly disordered, appetite variable, pulse 100 to 110, small and irritable, and almost constant desire to void urine.

As the only alternative, I proposed the removal of the stone by an operation, to which she readily consented; when she was put upon a course of diet and medical treatment best calculated to prepare the system for that event.

The question now arose, and one of no little moment, which of the operations hitherto practised in these cases, shall be adopted in this. I found a greater diversity of opinion among surgeons on the subject of lithotomy in the female, than the same operation in the male, but all agree that incontinence of urine is extremely liable to result from a division of the urethra and neck of the bladder in the female, while the high operation, and the one between the urethra and the symphysis pubis, no less endangered the life of the patient from extravasation of urine into the cellular membrane. Sir Astley Cooper, than whom there is not a higher authority in surgery, holds the following language:—

"In all the cases of this operation which I have *performed* or *witnessed*, the urine has not been afterward retained; but I would not deny but the patient might recover the retentive power. As the loss of retention is a greater evil than I can describe, producing excoriation and a very offensive state, I shall, in any future operation of lithotomy, try what may be effected by employing a suture to bring the divided parts together."

This is a sad experience, and is directly calculated to cool the ardor of the most skilful operator, under similar circumstances.

Mr. Cooper's method was, to cut the urethra downward and outward, between the vagina and ramus of the pubis; and his example is followed by Professor Gibson, of Philadelphia. Mr. Druitt divides the urethra directly upwards. Liston cuts upward and outward on each side. Pancoast recommends the high operation, or the one above the pubis. Others divide the urethra downward, into the vagina; and others still open the bladder between the urethra and pubis, and still another class propose to open the bladder between its neck and the uterus. In fact, there is hardly an accessible point in the female bladder that has not been penetrated by the knife of the lithotomist; and yet all these varied operations are liable to indescribable evils—either incontinence, fistula, or extravasation of urine. Dr. Baker, of the State of New York, (*vide Ranking's Abstract, Part* II., *Vol.* 1, *p.* 194,) reports a successful case wherein he commenced the division of the urethra, half an inch behind the meatus, and from thence cut downward and outward. He removed ten calculi, averaging the size of a nutmeg. This method certainly seems to possess some advantages, and I should be strongly inclined to adopt it.

In the case before me, I endeavored to dilate the urethra by sponge tents and bougies, but its irritability was so great that I was obliged to abandon my attempt—each effort being accompanied with excruciating pain. Feeling quite unwilling to make an incision sufficiently extensive to allow of the passage of so large a stone, I was exceedingly anxious to adopt some means whereby I could combine dilatation and incision in the most advantageous manner. For this purpose I contrived a *urethral dilator*, carved from wood, placed it in the hands of J. Fenton, of Columbus, an instrument maker of very considerable skill, who executed my design in steel in such a manner as to answer my purpose perfectly. The instrument consists of two arms of about three-and-a-half inches in length, each semi-cylindrical, and gradually tapering from the shoulder to the point. These arms were so exactly similar, that when their flat surfaces were closely approximated, they form a cylindrical instrument, the size of the largest sound. At the larger extremity is attached a shoulder, which is turned to one side at an angle of 45 deg., and in which is fixed a long thumb-screw, and a sliding pin, so arranged that the arms can be separated or approximated at pleasure, by turning the screw.

Everything being in readiness, with the assistance of my friends Drs. Awl and Smith, I proceeded to the operation.—The patient being placed as in the lateral operation for the male, without any difficulty, I introduced my dilator, and readily separated the arms of the instrument by means of the thumb-screw, so that in fifteen minutes I was enabled, with very little pain to the patient, to place my finger upon the stone, while the instrument still remained in the urethra. As it

was not safe to depend upon dilatation farther, I introduced the bistoury and divided the urethra upward and outward, after Liston's plan. This division increased the facility of dilatation to almost any extent. I could now feel the stone in every direction. I immediately introduced a medium-sized forceps, but found the stone too large to escape with impunity to my patient. I again introduced the dilator, distended the parts, and then made another incision outward and up ward on the opposite side. This enabled me to command the stone, and to remove it without much force.

The patient's sufferings during the operation were very acute, and the shock upon the nervous system was severe.—The bladder was cleansed from blood, a catheter introduced, the bandages were removed from the hands and feet, and she was laid in bed. To revive the patient, and alleviate the pain in the pelvic region, morphine, ammonia, and wine were administered, hot bricks to the extremities and hips, and warm fomentations applied to the pubis and hypogastrium. In three or four hours re-action came on and continued through the night, but abated the next day. It is unnecessary to detail the daily symptoms and treatment. Suffice it to say, that the urine flowed freely, and all the secretions were soon established. In a week or so she was enabled to retain her urine from two to four hours, and was perfectly relieved from all those harassing symptoms which resulted from the presence of stone. Fifteen months have now elapsed since this operation, and she informs me that her retentive power is as perfect as she could expect or desire.

The stone removed in this case is of an ovate figure, very regular in its outline, and of a dark brown color. Its surface was covered with cuboidal crystals, exceedingly acute at their projecting angles. It is 2½ inches in length, 2¼ inches in width, and ¾ of an inch in thickness, weighing 3½ ounces.

Case 4.—*Depression of the Dorsum Nasi.*—Some time in the month of March, 1847, Miss C. Y. came from her residence, in the country, to consult me respecting a deformity which she was exceedingly anxious to have removed. The history of the case is nearly as follows:—In the summer of 1840, she observed a "red spot," probably erysipelatous, just below the inner canthus of the right eye, on the side of the nose. It was tender to the touch, and spread rapidly downward, and very soon involved the integument, cartilages, and mucous membrane of the nose. The inflammation terminated in ulceration and complete destruction of the lateral cartilages, and that portion of the septum nasi which was contiguous to them. Inflammation finally subsided, leaving the integument and mucous membrane entire, but left that portion of the dorsum of the nose between the osseous bridge and the alar cartilage, depressed. About six or eight months previous to this attack, she was severely salivated in consequence of a very liberal exhibition of calomel during a course of remittent fever; whether the disease of the nose was the result of mercurial action, I am not prepared to decide.

I expressed an opinion that the deformity might be removed or greatly modified by a surgical operation. She left me with a promise soon to return; but did not, in consequence of her fears and opposition

of friends, till the middle of April, when she informed me she had fully made up her mind to submit to whatever I thought proper in her case.

Dr. Bardwell, a dentist of Troy, N. Y., was in our city at the time, and proposed to administer the "soporific gas," which is but another name for the "letheon," or ethereal vapor, for the purpose of rendering her insensible to the pain of the operation, to which my patient as well as myself consented.

The instrument employed for dividing the parts, was similar to a tenotomy knife—the handle four inches long, the blade, an inch and three-fourths, one inch of which from the point was sharp and two lines in width, the remainder was rounded. After she had inhaled the ethereal vapour about five minutes, and as I supposed was fairly under its influence, in presence of Dr. Gay and my private students, I commenced the operation by passing the point of the instrument into the left nostril, and penetrating the mucous membrane near the septum, at the point where the depression commenced; carrying it onward beneath the integument, till its point had reached a horizontal line corresponding with the floor of the orbit; I then divided the soft parts freely from the bones of the face by carrying the knife nearly as far outward as the infra-orbital foramen. Turning the edge of the instrument towards the median line, I dissected up the integument over the bridge of the nose a little to the right of the median line. Withdrawing the instrument, I introduced it into the right nostril, divided the septum where it resisted the elevation of the superimposed integument, and then dissected up the soft parts on the right side to the same extent that I had done on the left.

By approximating the cheeks, I was now enabled to raise the bridge of the nose as much as I desired. The operation was entirely subcutaneous, no incision or wound having been made in the integument. The mucous membrane was punctured only at two points.

Having been prepared with two pieces of sole leather, one inch long, and half an inch wide each, previously perforated by numerous holes, also a long silver pin with a strong head and a spear point made of steel, I passed the latter through one of the pieces of leather near its centre, and then, raising the bridge of the nose by approximating the cheeks, I passed the pin through the base of the nose just in front of the nasal processes of the maxillary bones until it emerged from the opposite side. The pin was then slipped through the second piece of leather, and the two approximated until the bridge of the nose was sufficiently raised, when the point of the pin was cut off and the projecting extremity coiled upon round pliers, so as to keep the leathers firmly fixed.

The patient bore the operation with remarkable firmness. Just before I had completed the dissection, she called loudly for another draught of ether, but the mouth and fauces were so much obstructed by the hemorrhage that I was obliged to withhold it. She subsequently remarked that she suffered very little pain until the last part of the operation, that the sensations which she experienced were more like those of a disturbed and troublesome dream, than any to which she could compare them.

The first five days after the operation the condition of the parts appeared in the most prosperous state; she was confined to her room and mostly to a recumbent posture. The night previous to the 6th,

from a change of temperature and a removal of the bed-clothes, she took a severe cold. The latter part of the 6th, inflammation attacked the parts, particularly around the upper portion of the nose. I succeeded, however, in moderating it until the 10th, when it suddenly took on an erysipelatous character; the face swelled very much, the part became puffy, livid, and sloughing seemed inevitable. I immediately removed the pin and leathers, and made an incision down to the bone, to relieve the tension and give exit to the grumous blood,—this procedure had the desired effect. All the unfavorable symptoms began speedily to subside. At the same time, strict attention was paid to the general system with anodyne and warm water dressing to the part affected.

On the 12th day after the operation, the parts were so much relieved that I re-applied the apparatus and retained it 24 hours; its application was repeated every alternate day till the 6th of the present month, (May,) the 19th of the treatment, when it was laid aside altogether.

May 13. Since last date, the livid color of the skin has been continually subsiding. The part formerly depressed maintains a natural prominence, and from all appearances, the operation is likely to prove quite successful; and if so, will be a rich reward to the unfortunate patient. The subcutaneous character of this operation, presents such obvious and unquestionable advantages over the ordinary methods of dividing the integuments, particularly of the face, that they need not be dwelt upon here.

Case 5.—*Epilepsy—partial Hemiplegia of right side, occasioned by fracture of the skull.*—R. C., aged 18 years, light brown hair, sanguine nervous temperament. Nine years ago, this young man was thrown from a horse, and his skull fractured by a blow from one of his hind feet, posterior to the coronal suture, midway between the angles of the left parietal. A portion of the bone was depressed, but the symptoms of compression were not very urgent at the time. Two or three physicians were summoned immediately, who made an effort to raise the depressed bone; failing in the attempt, the wound in the scalp was closed, with the remark that it could be elevated at any time thereafter, should the symptoms demand it. In three days after the injury, complete hemiplegia prevailed. On the 10th, there was great restlessness, with increasing and fearful symptoms of compression. One of the physicians introduced a probe through the fissure, down to the dura mater, which gave exit to a large quantity of bloody serum. This afforded immediate relief. As the opening inclined to close, the probe was repeatedly introduced, so that the discharge continued for three months, and then ceased altogether, and the wound healed.

For four or five years after the accident, the paralysis gradually subsided, so that he enjoyed a comfortable use of all his muscles. Three years ago, he had an attack of epilepsy, which has continued to recur as often as once in four weeks, ever since.

May 12th, 1846, this young man was brought to me by his father, for examination and advice. Symptoms at this time, were excitable nervous system; frequently fretful and morose; pulse, 100 to 120; tongue coated; bowels constipated; appetite usually good, frequently

voracious ; stomach troubled with acidity and flatulence. At the seat of injury, there was a marked depression of the skull. Since the attack of epilepsy, there has been much pain in the left side of the head, with a twinging sensation under the point of fracture. To such a state of dejection and wretchedness has he been reduced, that he expressed a desire "either to be cured, or killed by a surgical operation."

I considered this a fair case for the application of the trephine, and advised accordingly ; to which the patient and his father readily consented ; and on the 20th of the same month, I visited their residence for the purpose of performing the operation."

In presence of Dr. Bigelow, Carney, Klapp, Landon, Crawford, and several medical students, I proceeded with the various steps of the operation ; dissecting the scalp, and the application of the trephine in the usual manner, during the whole of which the spirits of my patient were buoyant and playful. On removing the portion of bone included in the trephine, I found upon its internal surface a deep sinus, half an inch in length, and extending more than half way through its entire thickness. At one side of the sinus, there projected, perpendicularly with the surface, a sharp spine nearly one line in length. In other respects the dura mater and bone presented a healthy appearance.

The wound was now dressed with one suture at the angle, adhesive strips, compress and bandage, and patient placed in bed.

Perfect quietness was enjoined, and all visitors excluded. He soon became perfectly calm, and felt great confidence in the success of the operation. This was four o'clock, P. M. ; at six o'clock he seemed much inclined to sleep. At seven, we found it difficult to wake him ; and at eight o'clock, to our great surprise, with a sudden scream, he was seized with an epileptic paroxysm. The paroxysms continued to recur, without a single lucid interval, until he had seven of them ; the last of which occurred about four o'clock the following morning. The convulsions had torn all dressings from his head, and the divided parts appeared like lifeless integuments bathed in cold water. I readjusted the dressings, and to my surprise, two hours afterwards, I found the compress, bandage, pillow, and linen about the head, perfectly saturated with limpid serum, for the source of which I could not account, except that it passed through the opening in the skull. His consciousness not returned, pulse rapid, weak and fluttering. At eight A. M., I left, with orders to give him a draught of salts and senna, as soon as he became conscious, with injunctions for the father to write me daily of his condition and symptoms—extracts from which are given below.

"May 21, eleven o'clock, A. M. R. has had no fits since you left, but there is increased discharge of water from the wound."

"22d, one o'clock, P. M. Has had a comfortable night's rest ; less nervous than for weeks, no pain, swelling or fever ; water still continues to flow, but less in quantity. It has been so great, as to wet all the dressings, a folded sheet under his head, and pillow, in two or three hours."

"23d. Had another fit this morning, at one o'clock ; is now quite calm and in a perspiration."

"24th, eleven o'clock, A. M. Rested well last night, less nervous than for years. No pain, heat or swelling of the head, a little fever. The water still flows from the wound."

"25th. Rested very well last night. All the symptoms improving, water has ceased discharging from the wound."

"26th. Quite comfortable; no more discharge of water; head free from pain; wound seems to be healing."

27th. I visited my patient, and found him in a cheerful and most encouraging condition; has no pain or confusion of intellect, sleeps better than before the operation, wound healing rapidly. Prescribed an issue to the arm. Abstemious diet and avoidance of all sources of intellectual and physical excitement.

"29. Still improving; thinks his speech improves; also the use of his right arm."

Aug. 1st. Patient came to my office; health improved in all respects; more fleshy, vigorous and less nervous; sleeps well; stomach entirely free from acidity and flatulence. Skin has become moist, natural, and free from a morbid sensibility, which was formerly a great annoyance.

Since last date, I am informed that the patient has had several attacks of epilepsy, but at greater intervals and of less violence. Should they continue to recur, the operation must, of course, be considered unsuccessful.

I have been induced to report this case partly from paucity of information on the subject in our standard works and periodicals, and partly from the enormous quantity of serum discharged, during the first five days after the operation, which could not have been less than half a gallon, and probably much more.

Case VI.—*Necrosis of the Humerus, of 25 years' standing, cured.*—L. Rhoades, of Runnelsburgh, Ohio, aged forty, twenty-five years ago, when fifteen years of age, went into the water when warm to bathe; soon afterwards he was attacked with ostitis, which was followed by necrosis of a portion of the right humerus, near the shoulder. A fistulous opening remained open for two years, and spontaneously closed, and remained apparently sound for twelve years. Eleven years ago he received a blow on the arm over the site of the old disease. Ostitis and necrosis again followed. A fistulous opening has continued ever since. He has suffered every species of maltreatment for the disease, by regular physicians, as well as quacks. Nov. 12th, 1846, I advised and performed an operation, with the assistance of Drs. Smith, Carter, and Lathrop, for the removal of the sequestra. I laid the upper portion of the humerus bare for four inches, and with a necrosis trephine, mallet, chisel and gouge, penetrated the cavity, which contained some half dozen spiculæ of dead and detached bones. These were removed; the cavity filled with lint, and the arm dressed. April 18, 1847. A few days subsequent to the operation above described, I passed a probe through the enlarged opening, and found that there were still several small spiculæ of dead bone, in the medullary canal, from two to four inches from the outlet. For the purpose of discharging them, I formed loops of small annealed iron wire, and by passing them through the aperture into the canal, downward, they would slip by the loose spiculæ, but on withdrawing them, the bones would become engaged in the loops and be dislodged and removed by these means. In this manner I removed as many as in the first operation, and all that remained in the cavity. Subsequently, the opening closed rapidly, and

cicatrized perfectly, so that at this date the arm appears entirely sound, and strong as the other.

Case VII. *Foreign Body in the Ear.*—L. C., from Circleville, a little girl of nine years of age, five years ago put a piece of glass into her ear, about the size of a small pea, exceedingly sharp and angular at each extremity. It was a broken piece of a glass rod, one quarter of an inch in length, and of the same diameter. In attempting to remove it from the ear, she crowded it down to the *membrana tympani.* Its points and sharp edges proving a source of irritation, caused a destruction of the membrane by ulceration. It then found its way into the cavity of the tympanum. Since its lodgment in the ear, several physicians had attempted its removal, but without success; each effort being attended with great nervous excitement, and followed sometimes by severe indisposition. On the 20th October she was brought to my office for my advice. I found, by examination with the speculum, that the piece of glass was fairly in the tympanum, and, consequently, its dislodgment could be effected with difficulty. I procured a very long and slender pair of forceps, a little curved, and tipped with broad, spoonlike extremities, with their concavities facing each other. I introduced them down to the foreign body, and felt it distinctly, but could not separate the arms of the instrument widely enough to engage it within its grasp. I then drew the temper from the forceps near the points, in a lamp, and so bent each blade backward, that when they were brought into contact the extremities were a little separated. I now introduced them again, and with some difficulty grasped the glass, and with an oscillatory motion removed it.

In treating of foreign bodies in the ear, authors usually recommend the syringe, or a wire, or probe bent into a hook, as the most suitable means for their removal. They tell us that the forceps is an improper and dangerous instrument for this purpose. This is not according to my experience. I have, in my practice, in fifteen years past, had a large number of cases of this kind, and I could never succeed with either of the first-named instruments, but never failed with the latter.

Case VIII. *Successful Operation of Staphyloraphy.*—L. Treat, æt. 25. Blind Asylum, Ohio. This young man has been a pupil in the Ohio Institution for the Blind, for a number of years, and in consequence of his complete and irremediable blindness, together with the extreme difficulty with which he can make himself understood, on account of his cleft palate and excessive stammering, he has been retained much longer in the institution than the usual time. For two years past he has occasionally requested and even importuned me to operate upon his palate, assuring me of his entire confidence in his ability to overcome his stammering, if his palate were cured by an operation. Looking upon the operation as one of doubtful success, it having failed in a large majority of cases, in the most skilful hands, where, like the instance before us, the fissure extended, not only through the velum, but through a portion of the hard palate, I for a long time hesitated to undertake the unpleasant task. Such was his anxiety to submit to an operation, however, that he prevailed with and obtained the consent of the trustees for that purpose. For several weeks I had him under preparatory treatment, which consisted in attention to the general health,

and the frequent application of the finger or some other foreign body to the fauces, fissure of the palate, and root of the tongue, for the purpose of rendering the parts accustomed to their contact. May 8th, 1847. In presence of the class and several members of the institution, I proceeded to the operation. I placed the patient in a low chair, and stood in another behind him, and while his head, thrown back, rested upon my knees, and opening his mouth as widely as possible, I introduced a straight bistoury, and passed it through the palate just anterior to the angle of the fissure, and then carried it backwards towards the uvula, dividing its border upon the right side. Seizing the uvular angle on the left side with a pair of dressing forceps, I passed the bistoury through the posterior, and carried it forward to the point of commencement of the first incision. The strip of mucous membrane now remained attached at the three angles, the anterior and two posterior. These were divided with the scissors. The proceedings were here suspended for awhile to allow the patient to rest, and the hemorrhage to cease, which was not excessive, and was soon arrested by the application of cold water. I now passed three ligatures of Sadler's silk, in the manner described by Prof. Mutter, of Philadelphia, which is decidedly the most difficult part of the operation. It was accomplished with a pair of Physick's artery forceps, one half longer than usual, a pair of long dressing forceps, curved at the point, and three short and strongly-curved needles about three-quarters of an inch in length. The parts were drawn together by the ligatures wound around the fingers, the first knot held by the straight dressing forceps, until the second turn and tightening of the surgeon's knot was effected. After the knots were secured, the parts on each side seemed very tense. To overcome this, I made an incision on each side parallel with the molar teeth, nearly down to the bone. The tensor palati, levator palati, and constrictor isthmii faucium acting together, rendered the velum and anterior pillar of the fauces exceedingly tense and prominent, quite too much so for the safety of the parts during the process of adhesion. I accordingly divided these pillars on each side freely, with the scissors, and all the muscular fibres that seemed materially to antagonize the tractile powers of the ligatures. The patient, after clearing the parts of blood and mucus, was placed in bed.

To secure perfect rest, one-fourth of a grain of morphine was administered, which produced the desired effect. For nourishment, the white of two eggs was mixed with a tumblerful of water, and a tablespoonful given every two hours. The palate and tongue, to be frequently bathed with mucilage. May 12th. Soon after the completion of the operation, he seemed to suffer from frequent spasms of the muscles of the palate and fauces, but the pain and inconvenience arising from it, gradually subsided under the influence of anodynes. On the 9th and 10th, the swelling and inflammation threatened to slough; but on the 11th, the symptoms abated, and the swelling began to subside. On the 12th, it had nearly disappeared. The two anterior ligatures, which were producing ulceration, were cut and removed, without pain or difficulty. An opening was observed through this portion of the fissure as large as a pea. Deglutition less painful; complains of hunger and thirst; pulse a little accelerated. His bowels have been freely moved by injections, and to nourish the system, enemata of chicken water have been administered every night. May 13th. Patient rested

well last night. Remaining stitch becoming loosened by ulceration, was removed. The opening above mentioned about the same; the remainder united.

Art. IV.—*Trial of Dr. Foote, for the Murder of his Wife.*

Among all the multifarious duties of the physician, there is perhaps no one which involves more responsibility, greater self-control, or more varied acquirements, than the practice of Medical Jurisprudence. As a medical witness, he has duties to perform as regards both the prisoner at the bar and the sovereign people. In his hand are not unfrequently placed the liberty or life of the accused.

A slight error in judgment may consign the innocent to wear out his life in endless servitude, among felons of the deepest dye, or condemn him to an ignominious death; and, on the other hand, it may aid the veriest criminal to slip through the distensible meshes of the law, and "go unwhipt of justice."

It has occurred to me that the profession would be very greatly aided in the exercise of this most responsible duty by a more frequent publication of medico-legal cases, with such notes and comments as they would seem to admit, either for or against the opinions advanced; and it is with this view that the following case is reported.

In giving the details of the case, I have, of course, confined myself entirely to that part of it which involves the medical testimony, and if, at any time, I refer to facts which are not found in the abstract of the evidence I have given, they are such as were testified to on the stand by some one of the witnesses.

The People, vs. Dan. Foote, } Court of Oyer and Terminer for Chenango county, September, 1847.—Judge Mason presiding.—Indictment for Murder.

It appeared in evidence, that on the 19th day of January, 1847, Dr. Foote, the prisoner, inflicted sundry bruises by kicking, on the person of his wife, in consequence of which, it was asserted, she died on the 18th of February following.

The following are the symptoms and treatment of the case as developed by the testimony of the different witnesses.

On the 20th of January she complained of being bruised almost to death, and showed to one of her female friends a bruise on the very lowermost extremity of the spine, half as large as the hand, very black, and very much inflamed. On the 26th she was troubled to sit on the chair, complained of being lame, of pain and soreness about the lower part of the abdomen and in the side near the hip, and also of the bruise above-mentioned. The side was examined, but no external marks were discovered. On the 30th she was about the house, but still complained of the pain and distress in the side. At this time a bruise was seen on the knee as long as the hand and two inches broad, which was black and blue. At this time also she appeared quite melancholy. The week following this date she was seen occasionally about her work, passing to and fro about her rooms, bringing in wood, etc., her motions, however, did not appear quite so quick as usual.

On Saturday, February 6th, she was taken crazy; during the day, one of the witnesses said, she appeared in great pain, and was continually putting her hands across her; she was cramped a good deal, cried, talked incoherently, and on Sunday she was still more crazy, and at one time she was in the street bare-footed and bare-headed. On Sunday evening a physician was called in; he found her sitting in a chair, she appeared exhausted, was insane, language incoherent, pulse quick and frequent, 120 in the minute. Camphor and water was prescribed, and 30 drops of laudanum at bed-time. The next morning she was very furious and strong, pulse reduced to 100, but showed no more excitement. She was bled two-thirds of a pint with some apparent relief, but she still remained furious.

During this week it is impossible to gather from the evidence a connected statement of her symptoms from day to day—by times she was raving and frantic, and used very great bodily exertions, leaping and springing about, sometimes on the bed and sometimes off, climbing upon the window-sills and falling off, falling over chairs, sometimes dancing, and at times so great was her strength that two or three were employed in holding her; at other times she would sink away, her muscles would relax, and she would fall into a sort of stupor; at times she slept for a little while. During the frantic turns, her face would become flushed, head hot, pulse active and hard, eyes red, the lids partially closed, so that the eyes appeared smaller, and the sight was turned down. During some of these paroxysms, cold water was applied to the head with apparent relief. When the paroxysm was off, she became pale, frequently pressed her hands across the abdomen, and seemed to be in pain. She could scarcely be induced to take either food or drink; when it was put in her mouth it would sometimes run out, and at other times after retaining it for a short time she would spit it out, and on the whole she swallowed but very little. Her bowels were extremely costive—injections produced no effect. There was a slight evacuation on Wednesday, but on the following Sunday, the 14th, a dose of Croton oil produced a copious discharge, pretty natural in appearance. Urine was scanty, and at last there was a perfect retention, so that twice, with an interval of thirty-six hours, resort was had to the catheter. The first time was on Monday night preceding her death, and on this night there was, for a time, considerable rigidity of the muscles of the arm and lower extremities, which, however, wore off in a few hours.

There was not, at any time, either dilatation or contraction of the pupil observed—there seemed to be no difficulty of sight or hearing until Saturday, the 13th, when there was some evidence that the latter was morbidly acute.

For the first few days she pulled at her tongue so that it lost all appearance of a tongue; it was cracked and dry, and became *very* dry on the Sunday before she died; she sometimes grasped her throat and tried to strangle herself. She had no lucid interval after the attack, and seemed to be in a state of total unconsciousness, or as the witness expressed it, he "did not think she knew anything."

On Saturday, the 13th, there was a change in her appearance, and danger was apprehended. Her eyes looked heavy, pulse hard and full, and respiration more rapid. On Sunday morning early she was bled two-thirds of a quart. On this day her face was pale and deathly,

and eyes glassy. At this time her physician perceived that she "flinched" when pressure was made in the right iliac region, but one of the witnesses in making an examination of the bruises on the preceding Friday, discovered, a little forward of the right hip, a swelling about the size of an egg, and, to use her own expression, "it was hard and callous—the bunch was below the skin and loose." There was very little, if any, difference in the color of the skin, over this tumor. This witness describes the bruises, on this day, as being yellowish-green. There were marks across the back as if made with a whip, they seemed scabbed, and as though the skin had been broken.

But little medication, it appears, was employed, owing to the very great difficulty of controlling the patient; but among other appliances, fomentations with "sweat-weed," (Polygonum Pennsylvanica,) were liberally used.

On Thursday morning, the 18th, she died. The countenance collapsed and the pulse grew weak, but yet she struggled violently, and not more than five minutes before she died she raised herself upon her feet. The fits of muscular exertion continued till the last. There was no diminution of the animal heat. The witness says her hand was warm as ordinary when she died, and he could discover no difference between the heat of that and the rest of the body.

A post-mortem examination of the body was made in the afternoon of the day on which the woman died. It was attended by four physicians, of whom the coroner was one. One of these assumed the direction of the dissection and took notes of the morbid appearances, but for some reason, unknown to the writer, he was not called on to give evidence in the case, although attending court for that purpose. The other three physicians were called as witnesses, and related from memory the appearances on dissection, neither of them having taken notes at the time.

The morbid appearances developed on the examination were the following:

The surface of the body exhibited some twenty or thirty bruises, the greater part of these were on the limbs, but none of them were of any great size. There were a number on the seat, which appeared to have been made for four or five weeks. There was a mark across the shoulder and the back, and one hip was black from the settling of blood. No other bruises were discovered till after the body was opened.

The thorax was first examined, and there all the contained viscera were found sound. The cavity of the abdomen was next explored. The stomach was found diseased. More than half of the mucous membrane of the superior portion was of a slate color, but there were no ulcerations. Another medical witness described this appearance of the stomach as an *ecchymosis*, and the upper portion as somewhat inflamed. From four to six inches in length of the ascending colon, beginning at its head, and half or two-thirds of its circumference, was in a gangrenous condition, or mortified completely dead and black, but there was no inflamed appearance surrounding the gangrened part. The peritoneum lying directly over the diseased intestine was discolored—one witness said it was inflamed and had a yellowish appearance. After this diseased intestine was found, a discolored spot on the skin about the size of half the hand was discovered lying directly

over it. The intestine was not cut through, nor was its strength in any way tested. It was neither torn nor ruptured. The witnesses said nothing of any gangrenous odor. The discolored portion of the abdominal peritoneum was not cut through, nor was the discolored skin washed. There were neither adhesions, effusions, nor suppuration within the abdominal cavity. There was a morbid appearance of the neck of the uterus—one witness describes it as inflamed and almost gangrened, and another says it was considerably effused with blood.

The head was not examined.

I have thus given, in as condensed a manner as I have been able to do, the symptoms and treatment of this case, together with the appearances on dissection, confining myself to the language of the witnesses as much as was consistent with giving a connected detail of the whole affair.

The life or liberty of the prisoner depended entirely on the bearing of the facts here set forth. If these show conclusively that the death of the woman was the necessary consequence of the personal injuries she received, the condemnation of the prisoner was undoubtedly an act of stern justice; but if, on the contrary, the facts detailed show that there was any doubt as to the cause of death, the prisoner, most certainly, should have had the benefit of those doubts.

The wounds inflicted on the deceased were not of themselves necessarily fatal, but it was alleged were accidentally so by having induced the disease which terminated life.

The immediate cause of death was, in the opinion of the medical examiners, mortification of the colon.

Judging from the symptoms as elicited on the trial, and from the morbid appearances on dissection, is there good reason to believe that acute inflammation of the colon existed of sufficient intensity to produce mortification, and was that disease produced by the injuries received?

It will be recollected that the bruises were inflicted on the 19th of January, and that the woman died on the 18th of February, twenty-nine days afterwards;—that on the 20th of January she was heard to complain of being bruised and sore, and showed a severe bruise on the lower extremity of the sacrum,—that she was not heard to complain of pain in the right iliac region, or in the bowels at all, until the 26th,—that then the part was examined, but no bruised or discolored spot was discovered, nor was it distinctly proved that any bruise was ever received there,—that it was not till the 14th of February that the physician discovered that she "flinched" when pressure was made in the iliac region,—and that her nurse had discovered a tumor in that situation on the Friday previous.

It is extremely difficult to conceive how a blow upon the extremity of the sacrum should produce an inflammation of the head of the colon, without a stretch of the imagination rather beyond what should influence one in a case where life and death are concerned. This proposition may therefore be set aside as untenable.

If a person receive an extremely severe blow on the abdomen, rupture of some of the contained viscera, or other disorganization, might happen without leaving any external marks, (S. Cooper, Beck), but in this case death would soon occur. If the blow were less severe,

inflammation of the peritoneal linings of the abdomen and intestines would happen, and consequent adhesions, or other indications of the presence of inflammation. "The effects of such violence are, inflammation of the injured bowels, and their adhesion to the inside of the peritoneum." (S. Cooper, Surgical Dictionary.) In the case under consideration, dissection discovered no adhesions, no effusions of coagulable lymph or serum, no suppuration, no softening or disorganization of the part, no gangrenous odor, nothing but the discolored spot on the colon; and this black spot, if the witness was distinctly understood, was terminated abruptly at its circumference by the undiseased portion of the intestine.

Injuries to the peritoneum are, in ordinary cases, quickly followed by signs of inflammation, so soon, indeed, that it is hardly a supposable case that their effects should continue for a month, and then destroy the patient without leaving some distinguishing marks. "The exudation of coagulable lymph is the most characteristic of all the products or effects of inflammation, and that which affords by far the most satisfactory proofs of its presence. Lymph is both very early and very abundantly produced when the inflammation is seated in the serous membranes." (Macrobin, Introduction to Practical Medicine, p. 32.)

It is asserted that the dark-colored spot on the colon was mortification: but aside from the facts that there were none of the ordinary signs of inflammation seen, and no marks of gangrene, except the color, noticed, it is well known that cases do frequently occur, in which this appearance is found, and in which there is no disorganization of the part, as necessarily happens in cases of gangrene; nor does this appearance always indicate even an approach to that state.

Abercrombie (Diseases of the Stomach and Bowels,) relates several cases of this kind, and one in particular (page 165), where a young lady died of abscess of the cerebellum, with symptoms of disease in the abdomen, in which "the caput coli, and about eighteen inches of the lower extremity of the ileum, were of a very dark livid color, without any change in their structure." "The inflamed portion of the bowel," says Watson, (Practice, p. 173,) is often of a very dark color, and even almost black, from the great congestion of blood in its tissues. Now this black color has sometimes been erroneously set down as an evidence of gangrene. You must not trust to the mere color, however. If the coats of the bowel be firm, and the peculiar odor of gangrene be wanting, you are not to conclude that mortification of the bowel has taken place, simply from the dark appearance of the intestine."

"It is by no means uncommon," says Hodgkin, (Morbid Anatomy, p. 40,) "to find both the serous membranes and false membranes formed upon them of a very dark color; but this is of a different nature from gangrene, and is to be carefully distinguished from it. It depends upon an altered condition of the blood in the minute vessels, and is apparently most frequent in situations in which inflammations or irritations had at one time existed, but had subsequently subsided. Or it may even be cadaveric, and depend on altered blood, either in its vessels, or extravasated, or transuded."

All these facts show pretty strongly, if not conclusively, that *this black spot* on the colon might have existed without gangrene, and even

without inflammation. It may have been the product of irritation, or simply the settling of blood after death. In addition to all these negations, I will add, that it will be seen, on reference to the symptoms of the case, that the manner of death was not such as ordinarily occurs where mortification takes place.

If, then, the pathological signs and the diseased appearances in the abdomen were not a consequence of external injury, and if gangrene did not exist, the question may be asked, what disease *did* exist there, and what was its cause?

I apprehend that all the symptoms of the case referable to the abdomen, show pretty unequivocally, that there existed an impacted fæcal accumulation in the cœcum or colon, producing that form of colic which has been called stercoraceous. The obstinate constipation, which was not relieved fully till the operation of the Croton oil on the 14th of February, four days previous to death,—the pain and tenderness in the iliac region,—*the tumor there*,—the scanty urine,—the pressure so frequently applied to the part by the patient,—and, lastly, let me add, the post-mortem appearances—all indicate that this was the case.

The symptoms of this disease are somewhat intermediate, it is well known, between those of colic and inflammation, and if not relieved, it passes readily into the latter state. "A certain degree of pain on pressure, sometimes attends a simply distended state of the bowels," (Abercrombie,) and in this variety of colic there is less distension of the bowels and irregular puffiness in any part of the abdomen, and the pain which is referable to the colon, is more fixed than in flatulent colic. In some thin subjects, the indurated matter may be readily felt in the colon, particularly at its arch, and in each iliac region, through the integuments. (Stokes and Bell.)

If impacted fæces produce no other effect than to create an irritation, and the patient die from any other cause, still a black spot may be found on the irritated portion of the intestine, corresponding with the locality of the impaction, and in that case there would be found none of the ordinary appearances of inflammation.

In reviewing the symptoms of this case, we find that there is still a distinct set, whose origin is apparently the brain. Such are the chaotic mania,—the frantic turns,—great bodily exertions,—sleeplessness,—the flushing of the face, hot head, and active and hard pulse during the turns of excitement,—the red eyes,—the partially-closed lids,—the relief afforded by cold ablutions to the head,—the retention of urine,—the partial rigidity of the muscles of the arm, &c.,—the morbid acuteness of hearing,—the pulling at the tongue, and, finally, the manner of death. The question was asked of the medical witnesses for the defendant, "What, in your opinion, was the disease of which this woman died, judging from the symptoms you have heard stated, and without reference to the post-mortem examination?" In view of the above symptoms, it was answered, that in their opinion, she died of disease of the brain. In further confirmation of this opinion were the facts that the woman had been subject to fits of cerebral excitement, which were relieved by bleeding, and one of the physicians testified that he had thought for three or four years that she was of unsound mind. As the brain was not examined, the truth or falsity of this opinion could not be proved.

It remains to make a few remarks on the post-mortem examination. I have already mentioned that the district attorney did not call the physician, who conducted the examination, as a witness. The reason for this neglect is not known, and neglect it certainly was, for without this witness, the best possible evidence could not be had, and such the ends of justice always demand. The district attorney is the minister of justice, and not of vengeance, and if he had even known that the evidence of the witness would have gone in favor of the accused, he should have been called upon the stand. Public justice does not require that the accused shall, at all events, be convicted, but that the truth shall all be told. We must, then, take the account of this examination as we find it,—that is, according to the best recollection of the lookers-on.

It must necessarily be characterized as essentially imperfect, in the fact that the brain was not examined. All writers on medical jurisprudence agree in directing (and common sense would seem to dictate the same), that under all circumstances, all the cavities of the body should be explored, because, although disease in one part may be found which may be supposed sufficient to account for death, still, on further examination, a still more grave cause may be discovered; and besides, if all the cavities are not examined, it leaves room for doubt, and the objection may be made, that the cause of death might have been found there. (Guy.) For these reasons, the medical witnesses on the part of the defence, when asked what, in their opinion, was the cause of death, answered, that they could not give an opinion, because the post-mortem examination was imperfect and insufficient. In making up their opinion that the cause of death was mortification of the intestine, the examining physicians founded it entirely on the appearance of the part; one of them, indeed, said expressly, that he judged solely from that circumstance. It has already been shown from good authority, that a dark color of the part is not sufficient evidence of mortification. The diseased appearance of the stomach was probably nothing more than is frequently found when no organic lesion of that organ precedes death. "There is hardly a stomach," says Dean, (Remarks on Medical Jurisprudence,) "of those who die of short illness, that does not present suffused spots; the gastric juice often acts as a solvent after death, and for this cause the stomach has been found eroded in different parts, which by the ignorant may be taken for morbid appearances." The suffused appearance of the os uteri was undoubtedly nothing more than a cadaveric appearance, owing to its depending position.

I should not have noticed these appearances, were it not for a slight discrepancy in the testimony of the medical examiners—one thought the stomach diseased—another referred it to the solvent power of the gastric juice. One thought the os uteri almost gangrened, another discovered no signs of inflammation about it.

In relation to the bruises on the body and limbs, it is pretty evident they were made at different times, part of them having the appearance of old bruises, of which the most severe was that on the sacrum; and those on the limbs, with the exception of the one above the knee, were described as recent, and undoubtedly were made by the patient herself, during her violent struggles and exertions. The question of the contusion on the abdomen is one of importance. It has already been shown that the character of the abdominal disease, as shown by the

symptoms and by the inspection after death, renders the fact an exceedingly doubtful one; and the morbid appearances of the integuments do not, most certainly, tend in any degree to elucidate the matter.

The discolored spot on the peritoneum was said to be yellowish, or buffy, and might have been a mere stain arising from contact with the diseased spot beneath, and so one of the witnesses intimated, while another called it inflamed, and another thought it had been in that state, and was getting well. The discolored spot on the skin, it does not appear, was very critically examined; there certainly was no ecchymosis, for none was discovered either before or after death,—no incision was made into it to discover whether blood was effused, as would have been the case from a contusion, and the skin was not washed, although fomentations with a coloring material, (Polygonum Pennsylvanica,) had been freely employed.

The verdict of the jury was manslaughter in the first degree, and the prisoner was sentenced to the State Prison for life.

With the justice or injustice of the verdict, or the innocence or guilt of the prisoner, I have nothing to do. There can be no shadow of doubt but the prisoner was guilty of the most outrageous, ruthless, and unpardonable abuse of his wife, and for that he should be punished to the full extent that the laws of our country will allow—thus common justice and common humanity would dictate. It might not, perhaps, be objected to that he should be punished to the full extent of his present sentence on "*general principles*;" but when a prisoner stands indicted for "*particulars*," let those particulars be fully proved, either by facts or by incontrovertible circumstantial testimony.

ART. V.—*An Essay on the Philosophy of Medicine, and the Spirit in which it should be studied and practised.* By N. S. DAVIS, M. D. New-York.

IN the November number of this Journal, we noticed briefly the morbid changes of which our organs are susceptible, and we now proceed to a consideration of the *agents* capable of producing such changes.

And in doing so, we shall again recur to the views of Dr. S. L. Metcalfe on Caloric, more especially as set forth in his article in the number of the Journal to which we have referred. When in our first article on the subject under consideration, we referred to some of the views of Dr. Metcalfe, as represented in his great work on Caloric, we had no thought of either formally reviewing his work, or of giving the slightest offence to its author. And did the closeness and soundness of his reasoning, equal the ease and beauty of his style, we should no more presume to question the one, than to imitate the other. But it seems to us that he is prone to that fascinating, and far too fashionable habit, of reasoning from remote analogies, and of drawing conclusions from the congregation of facts essentially dissimilar, which justifies us in subjecting some of his conclusions to a rigid scrutiny. Thus, when he tells us that Caloric is not only *the* universal stimulant, the sole motor power of the universe, and the cause of all vital action, but also *the vital principle* itself, it becomes us to search well the grounds on which these conclusions are based. Not that we are opposed to any degree

of research after the *causes* of things, as Dr. Metcalfe erroneously and unjustly asserts; for that is, in truth, the very task we had undertaken in these essays; but because we would carefully avoid the error, so frequently committed, of adopting some one physical agent as the magic power, the philosopher's stone, which is to afford at once a ready solution of all the intricate phenomena of nature. And we would also avoid the effort, so often made in vain, to find out the nature of the vitalizing agent or principle of life. It seems to us that one of the prominent sources of fallacy in the article of Dr. Metcalfe, is the want of all distinction between the excitors or stimulants by which the processes of living beings are sustained and kept in action, and the principle of life or susceptibility of living beings to the influence of such excitors or stimulants. To make the idea if possible still more plain, we say that all animate or living bodies are composed of matter arranged according to some definite form, and endowed with a principle or property which we term vitality or life, that renders them susceptible to the influence of external agents or excitants. That when matter is thus formed, and thus endowed with vitality or a susceptibility, the presence of certain stimuli or agents, as Caloric, oxygen or atmospheric air, and water, are essential to its state of activity or development. Thus in the seed, we have matter in a definitely-organized form, and also possessed of a susceptibility to impressions; but without the action of certain external agents, no vital phenomena take place. Three things, then, are essential to the existence of organic or vital action, viz.: matter in a definite form; a susceptibility to the influence of external agents; and the presence of such agents. But Dr. Metcalfe confounds the two latter by declaring Caloric to be not only "the most universal stimulant in nature, but the *cause* of stimulability." And for proof, he mentions the fact that vegetables cease to grow in winter; that certain animals become dormant during the same season, and that some fishes may even be frozen and again restored by the influence of Caloric. To show the absurdity of this position, however, it is only necessary to ask, if Caloric is *the* cause of stimulability or susceptibility, what renders the seed or the plant susceptible to the influence of Caloric itself? What renders the dormant seed, the inactive plant, and the frozen fish, susceptible to the influence of Caloric? Surely better instances to illustrate the fact that the vitality or organic susceptibility of both plants and animals is independent of their temperature could not be adduced. For we think even Dr. Metcalfe will not contend that the tree which has ceased to grow in winter, or the frozen fish, is actually dead; i. e., deprived of vitality. Neither will he pretend that any organized body, after being actually deprived of vitality, can be restored by the addition of any amount of Caloric. Hence it is plain, that every organized body must possess an independent principle of life or susceptibility, to enable it to feel the influence of Caloric or any other agent whatever. Nor are we disposed to admit that Caloric is the sole *cause* of vital action, notwithstanding the Doctor's ingenious application of Herschell's rules for determining causes.

It is true, that absence of Caloric invariably induces *suspension* of vital action; and hence it admits the application of Herschell's first rule, viz.: Invariable negation of effect, with absence of the cause. But it is *not* true, that increase or diminution of Caloric alone, without the presence of other agents, will uniformly produce corresponding in-

crease or diminution of effect; and therefore will not admit of the application of Herschell's second and third rules as quoted by Dr. Metcalfe. Indeed, who does not know that all the Caloric in the universe will not cause a single seed to germinate without the simultaneous presence and influence of oxygen and water? Hence every reader will at once perceive that Herschell's rules will apply equally well to either of the latter as the former; for the absence of either of them is as certain to induce "negation of effect," and their increase within certain limits, increased effect, etc. What then is the true inference? Is it, that vital action is caused by the influence of any one external agent; or is it the result of the combined influence of several? Most certainly the latter. And Dr. Metcalfe himself says, in his recent article, "that both oxygen and water are *essential* to the generation and development of plants, is universally admitted." But he adds, "does he (Dr. Davis) believe that oxygen, light, electricity, or any other agent, without Caloric, is capable of producing all the phenomena of animal and vegetable life?" Certainly not: for that would be committing the very same error, of which we have all the while complained, viz.: that of attributing vital actions, which are the result of the combined influence of several agents, to *one* of them.

If any are disposed to question the propriety of calling Caloric an external agent, we must remind them that Dr. Metcalfe has himself fully sustained the doctrine, that Caloric is a *material* body, and hence as much an external or physical agent as oxygen or any other substance. He, however, endeavors to get rid of the direct agency of oxygen in the animal economy, by restricting its use entirely to the production of Caloric, by uniting with Carbon and Hydrogen in the lungs. And, as he accuses us of no small amount of ignorance for maintaining an opposite opinion, and as the subject is of much intrinsic interest, we hope our readers will indulge us if we devote a few pages to its consideration. Two plain questions present themselves, viz.: Does the oxygen of respired air enter into direct union with carbon and hydrogen in the lungs, producing carbonic acid and watery vapor? And is animal temperature maintained by the Caloric developed as a result of such union? We answer both these questions in the negative, for the following reasons, viz.:

1st. It has been found by the accurate experiments of Magnus and others, that venous blood contains free carbonic acid before it reaches the pulmonary organs, and that arterial blood contains an increased proportion of the oxygen gas. 2d. It has been found by all modern investigators, that the amount of oxygen consumed in the act of inspiration does not correspond with the quantity of carbonic acid gas exhaled, but exceeds it by an average of one-sixth. 3d. It has been demonstrated by the experiments of M. Edwards, that animals continue to exhale carbonic acid gas after being immersed in an atmosphere of pure hydrogen. 4th. The experiments of R. E. Rodgers, of Philadelphia, show very conclusively, that fresh venous blood gives off carbonic acid when enclosed in a sack of animal tissue, as a bladder, and surrounded by hydrogen gas, or nitrogen, with just as much facility as when surrounded by oxygen. And 5th. The amount of carbon thrown off by the pulmonary organs, even if we admit it to have been directly united with the oxygen in the lungs, is wholly insufficient to account for the production and maintenance of animal heat. It is

estimated by Liebig, and generally assented to by others, that the whole amount of carbon consumed in the human system, by entering into combination with oxygen, is an average of 13·9 oz. every twenty-four hours; and of this about 8·5 oz. are thrown off by the lungs, while the remaining 5 oz. finds exit from the skin, etc. It is farther assumed by the same writer, and indeed by all others who make animal heat depend on the union of carbon and oxygen, that a fixed and uniform quantity of Caloric is evolved by the union of a given quantity of the elements, whether such union take place gradually or rapidly, at a high or low temperature. Now, throwing aside the well-known fact, that oxygen and carbon do not unite at all at common or low temperatures, we ask in all seriousness, whether any reflecting man can imagine heat or Caloric enough to be evolved by the combustion of eight and a half, or even thirteen ounces of carbon, to keep 150 pounds of matter (the weight of a moderate-sized adult) at 98° for twenty-four hours in succession? If there are any so credulous, we would advise them to commence the experiment without delay, by endeavoring, under the most favorable circumstances which they can devise, to keep 150 pounds of meat warm, or at the ordinary temperature of the human body, by the combustion of half or three-quarters of a pound of charcoal or any other form of carbon, during the period of twenty-four hours. On this point Dr. Carpenter, in his work entitled "Principles of Human Physiology," page 682, very justly remarks, that "the combustion of from 5 to 10 oz. of carbon per day, however, would be by no means sufficient to keep up the temperature of the human body to its proper standard; for it has been *experimentally ascertained*, that the amount of Caloric set free by a warm-blooded animal in a given time, is more than can be thus accounted for." Still other facts might be adduced in reference to these same questions, but we deem those already mentioned as abundantly sufficient for our present purpose.

Indeed, the experiments of M. Edwards and R. E. Rogers, are alone sufficient to settle conclusively the question, whether the carbonic acid expired is formed in the lungs by the union of the oxygen inspired with the carbon of the blood, or whether it is a genuine educt from the venous blood in which it existed before it reaches the pulmonary organs. For in the one case, we have animals immersed in an atmosphere of pure hydrogen, continuing to give off carbonic acid until an amount had been expired greater than the whole bulk of the animal; and in the other, fresh-drawn venous blood yielded carbonic acid to an atmosphere of hydrogen or nitrogen just as readily as to one of oxygen, and the process was attended with an equal rise of temperature. When Dr. Metcalfe will reconcile these two facts, corroborated as they are by a host of others, with the idea that the carbonic acid thrown off is the result of a union or "combustion of carbon and oxygen in the lungs," he may well accuse us of being "wholly unacquainted with many of the great leading facts connected with animal heat, and even with the history of what has been written on the subject." Indeed, so well settled is this point, that with the exception of Dr. Metcalfe and Mrs. Emma Willard, we are not aware that a single physiologist of note at the present day, contends that carbon and oxygen enter into direct union in the lungs. Dr. Metcalfe seems to place much reliance on the alleged fact that the lungs and left side of the heart are from

one to three degrees warmer than the right side; and he asks with some degree of emphasis, how this is to be explained, "if oxygen does not unite with carbon and hydrogen in the air-cells of the lungs."—We answer in the first place, that the fact itself is at least questionable. For while Drs. J. Davy, Scudamore and Metcalfe make arterial blood in the lungs and left side of the heart from 1° to 2° higher than venous blood, Jurine makes both alike; and Coleman, Cooper, and Martine make venous blood the warmest. The experiments of Davy consisted in severing the blood-vessels of the neck, and immersing a thermometer in the currents of blood flowing from the carotid artery and jugular vein, and subsequently opening the chest and inserting the thermometer in the two ventricles of the heart; while in those of Coleman, Cooper, etc., the animal was first rendered insensible by some injury of the brain or great nervous centre. Now we shall not attempt to decide which of these eminent experimenters is entitled to most credit, but we may very justly claim, that a fact which admits of so much question, cannot be made the basis on which to rest any important deduction. But even if we admit that arterial blood and the left ventricle of the heart are 1° or 2° warmer than the venous blood and right ventricle, it by no means follows that such difference is owing to the "combustion of carbon and hydrogen in the air-cells of the lungs." For Davy, in the very same series of experiments which led him to conclude that arterial blood in the left ventricle was warmer than the venous blood in the right, also found other parts of the body even warmer than the lungs or left side of the heart.—For instance, he relates the following result, which we now recollect, viz: Temperature of left ventricle 103°, pyloric orifice of the stomach 104·5°.—Here the heat of the pyloric portion of the stomach is quite as much greater than the left side of the heart, as is the latter alleged to be greater than the right; but if the heat is generated in the air-cells of the lungs, how can this be explained? Again; when Dr. R. E. Rodgers of Philadelphia enclosed fresh venous blood in a tissue of animal membrane and surrounded it with an atmosphere of pure hydrogen, he not only found that carbonic acid was freely given off and transmitted through the animal tissue, but also that the temperature uniformly rose, and at the same time a quantity of hydrogen had entered the blood through the same tissue. The same result was produced when nitrogen or oxygen was substituted in the place of hydrogen.—Here we have blood placed as nearly as possible in the same condition as in the lungs, and we find the same interchange or absorption of the external gas and exhalation of the carbonic acid, and that too accompanied by a slight elevation of temperature. Now, if there is one fact clearly demonstrated in the whole science of physiology, it is this, *that animal heat is not the result of any direct union "or combustion of carbon with oxygen in the air-cells of the lungs."* If this is admitted, the whole theory of Dr. Metcalfe, both in regard to nutrition and fever, falls at once. For he maintains the very singular doctrine, that the Caloric acquired by the arterial blood in the lungs is used up or rendered latent in the process of uniting the nutrient particles of the blood with the solid tissues. And also that the increased heat of fever is owing to the fact, that during the existence of such disease, nutrition is in a great degree suspended, and the Caloric that in health is absorbed in effecting nutrition, now becomes free, and thus elevates the temperature of the

whole system. Thus in the recent article to which we have referred, he says: "It is equally certain, that whenever a considerable portion of all the blood in the body is arrested or retarded in its progress through any one or more of the organs, as in inflammation of the lungs, stomach, bowels, etc., it is prevented from circulating through the lungs; so that being no longer renovated by respiration, it is soon rendered unfit to nourish the solids; the consequence of which is, that the *caloric* which is employed during health in uniting its particles with the solids, and in giving them vital energy, no longer performs its natural office, but *accumulates* in the body, and causes the preternatural *temperature* of *fever.*" And again he says, "that a difference between the temperature of arterial blood and of the solids, is absolutely essential to all the phenomena of animal life, and therefore one of the great leading facts which lie at the very foundation of physiology." Is it possible that Dr. Metcalfe has spent ten years of his life in studying the phenomena and laws of Caloric, and has not yet learned that familiar and universally-acknowledged law: that when matter passes from a rarer to a denser state, as in the conversion of liquids into solids, caloric is developed or set free? Judging from the above extract, we must suppose that he has not; for otherwise he would not make the process of nutrition, or the conversion of liquid blood into solid tissue, a means of absorbing caloric, while a cessation of that process, as in fevers, causes an accumulation of caloric.

Comment on such a position is unnecessary; for so plain a contradiction of one of the plainest facts in natural science, carries with it its own refutation. So also, "the great leading fact" set forth in the last quotation, is a pure assumption. Not only is it destitute of a shadow of proof, but it is directly contradicted by the experiments of J. Davy, and others, one of which we have already adduced, showing the solid tissue of the stomach to be 1·5° higher than even the arterial blood in the left side of the heart. But Dr. Metcalfe accuses us of unfairness or misrepresentation, in the criticisms contained in our first article, and he mentions two instances, viz: one in relation to the effects of sleep on the energies of life, and the other in reference to Caloric being "the cause of stimulability." In relation to the first, we quoted verbatim from his book as follows: "The solution of these queries will be found in the *fact*, that respiration is *always* very much diminished during the night, and arrives at the minimum about midnight, when all the energies of life are *proportionably* reduced." Now, Dr. M. explains by saying, that the reduction of the energies of life here spoken of, is owing not to the diminution of the respiration, but to the predisposing causes of fever. All we have to say of this is, that admitting the explanation, the language quoted is very unfortunate. For if the word "*proportionably*" in the above, refers to anything, it certainly refers to the diminished respiration during the night. Hence he must blame his own language, not us. In reference to the second point, he alleges that by the "cause of stimulability," he means simply, "that Caloric is essential to that *vital property*, or condition of organized bodies, which renders them susceptible to the impression of stimuli." If by this he means to admit, that organized bodies are possessed of an independent *vital property*, and that Caloric is one of the stimulants essential to the maintenance of vital action, then we cordially agree with him. If, however, he means, as his language in many places plain-

ly implies, that caloric is essential to the existence of the vital property, or in other words, that it is the vital property itself; that property which renders the seed susceptible to the influence of heat and moisture, or the dormant plant of winter susceptible to the influence of the genial warmth and moisture of spring, etc., then is he contradicted by all the phenomena of nature, to which he has himself alluded. But we have accused Dr. Metcalfe of practising an imperfect and fallacious mode of reasoning. For example, he adduces the facts that vegetation starts into activity in spring, increases during the summer, diminishes in autumn, and ceases in winter; that the aggregate amount of vegetable and animal life is in proportion to the warmth of the climate; and that, "in the total absence of solar caloric, if such a thing were possible, the beautiful round world, with its myriads of sentient beings, would be a motionless and *lifeless* desert;" and hence draws the conclusion that Caloric "is *the cause* of all physical and vital phenomena." Now, the facts or premises simply prove that Caloric is one of the essential stimuli of vegetable and animal activity, but they do not prove that there may not be a dozen others equally essential; and hence the conclusion that "Caloric is *the* cause," has no necessary connection with the premises. We readily admit that if Caloric was stricken from existence, this world would be a lifeless desert; and so it would be, if any other elementary body, whether ponderable or imponderable, was stricken from existence. Indeed, did Dr. M. ever stop to inquire the effects of striking Oxygen, or Hydrogen, or Carbon, etc., from existence? Hence it becomes plain to every mind, that such suppositions really prove nothing, except the universally-admitted truth, that the Creator has made nothing in vain. Again, he makes *Caloric* the *sole motor* power of the Universe; *the* cause "of all the operations of Astronomy, Meteorology, Chemistry, and Geology;" and "lastly, it is because the heavenly bodies are impelled by the same *ether* (Caloric) that they fly through their orbits—some of them at the rate of more than a thousand miles per minute." If we analyze these conclusions, we shall have the following curious results, viz: Caloric is *the* cause of attraction and repulsion; of solidification, liquefaction and aerification; of contraction and expansion; of movements in masses, and movements in atoms: i. e., it draws the particles of matter together, and drives them asunder; it causes the particles to unite and become solid, and to separate, and become liquid or gaseous; it tends to draw the planets of our solar system towards the sun, and drive them from it at the same time; and yet, instead of making them stand still between two opposing forces, it causes them to move perpetually in a curved line. Verily, a more melancholy specimen of the injurious and blinding influence of an unlimited indulgence in vague theorizing, could not well be adduced. Neither could there be a more impressive illustration of the necessity of adhering strictly, in all our inquiries, especially into the phenomena and processes of living beings, to the most rigid system of induction from facts, and that too from facts well ascertained and directly connected with the subject. We had intended, here, to give our own views of the influences of Caloric on the human system, especially as a cause of disease; but our remarks have already extended so far, that this must be deferred until another occasion.

ART. VI.—*Operation to remedy a Division of the Velum Palati, or Cover of the Palate.*

NEW-YORK INSTITUTION FOR THE DEAF AND DUMB, Sept. 10, 1847.

DR. LEE,—The following account of a surgical operation appears in the last number of the Annals of the Education of the Deaf and Dumb and the Blind—*Annales de l'Education des Sourds-Muets et des Aveugles*—Paris, 1847. A translation may be acceptable to the readers of your Journal. With respect,

J. ADDISON CARY.

Professor Blandin, Surgeon of the Hotel-Dieu, has performed an extremely-delicate operation with rare dexterity and complete success. The subject was a lad of twelve or fourteen years of age, whose pronunciation was very imperfect, his voice resembling that of one who speaks with his nose pinched; he experienced also a difficulty in the act of swallowing. This infirmity was the result of a natural defect. In the middle of the soft and posterior part of the child's palate was a slit, by which the sounds were not sufficiently prevented from extending toward the anfractuous cavities of the nasal fossæ, so that they were retained there in a very disagreeable manner.

Prof. Blandin proceeded in the operation as follows:—he first cut the edges of the opening with a small bistoury, after having previously fastened them below with a long forceps (pincers) furnished with a very fine bit; he then passed a narrow silk ribbon through the two sides of the wound, at the same time piercing the latter at the distance of about five millimetres from the bleeding surface; this being once done, he successively tied tight the three ribbons which he had placed, and the deformity was found completely removed. The whole operation required about ten minutes.

The able surgeon forbade his young patient speaking or opening the mouth to show his throat. Mr. Blandin himself, during all the time of treatment, abstained from examining the state of the parts, for each time the mouth is opened the cover of the palate rises, and the movement which results might prevent the reunion of the parts thus brought together.

For five or six days the little patient received for nourishment only broth and milk, which he swallowed by spoonfuls, with coffee, these liquids being made to flow upon the tongue, the head being turned back, so as to cause them to pass into the stomach rather by their own weight than by a real movement of deglutition, which might have been injurious to the parts united by the operation.

All this care, admirably given and courageously seconded by the child, has been crowned with the best success. There remains nothing of the primitive division of the cover of the palate, which now presents an entirely normal conformation.

Already great modifications are observed in the functions of the part operated upon. The patient swallows his food with ease, which now seldom returns into the nasal fossæ. He can whistle, which was utterly impossible for him before the operation; his pronunciation, also, has greatly improved, though there is very much yet to be gained in this respect. In fact, consequent upon a defective natural forma-

tion, he had contracted the habit of misusing the vocal organs in the articulation of sounds. Now, the surgical operation which destroys the organic imperfection, destroys not, at once, the wrong habits which are the result of it; study and practice must change the unfortunate physiological direction which the organs of articulation have contracted.

ART. VII.—*History of Endemic Dysentery, as it prevailed at Lyons, N. Y., during the Summer and Autumn of* 1847. By DR WITT C. VAN SLYCK, M. D.

LYONS, October 25, 1847.

DR. LEE,—*Dear Sir,*—Believing that a free exchange of opinion, concerning facts of daily occurrence in practice, is highly conducive to the general improvement of the medical profession, I have endeavored to compile, from my Note Book, a brief history of Endemic Dysentery, which prevailed in Lyons, N. Y., during the summer and autumn of 1847. This disease, aside from its fatality, presented several anomalous features which deserve to be chronicled.

During the spring and first summer months, the prevalence of bilious intermitting fever was unusually great, in comparison with former years, although meteorological observations, and other circumstances which were inquiringly consulted, did not appear to exhibit a corresponding change, or evidence of causation. About the first of July, this disease having partially subsided, the first cases of dysentery made their appearance. It was confined to malarious districts; not a single case occurred in upland sections, although but a mile or two distant from the infected localities. It assumed from the first a highly-malignant character, and its mortality has exceeded that of any disease which has pervaded this section of country since its early settlement.

The initial symptoms were remarkably uniform. A dull griping pain in the lower part of the abdomen, attended with slight gastric disturbance, for a few hours, and followed by violent tenesmus and mucosanguineous discharges, ushered in the disease. The discharges would sometimes consist entirely of mucus, streaked with blood; in other cases the blood would predominate. The frequency of the discharges varied generally from five to fifteen minutes, although the amount was inconsiderable, not more than one or two ounces, and without any appearance of natural fæces, and but slightly fœtid. During the progress of the disease, the discharges became more or less purulent and highly offensive. The tongue was covered with a thick white fur, with red edges, and a yellowish-brown, or dark stripe in the centre. Appetite slightly diminished, thirst considerable, though upon swallowing food or drinks a distressing tormina, tenesmus, and increased frequency of discharges would ensue. The pulse was uniformly lower and less frequent than in health; generally varying from 35 to 55 per minute. Urine scanty, high-colored, and frequently suppressed; skin dry and cold.

The most remarkable feature in the character of this disease, was *the entire absence of fever.* Most authors agree in asserting that it is always attended with some form of febrile disease, but, from careful observation in several hundred cases, I was unable to find a single in-

stance where it was attended with febrile symptoms, and the observations of my medical brethren coincide with those already expressed. During the course of the malady, which usually runs from ten to fifteen days, it occasionally happened that the dysenteric symptoms would suddenly abate, and the patient would be attacked by a quotidian type of intermitting fever; and on the contrary, it would more frequently supervene upon a bilious remittent, or intermittent fever, in which case the febrile symptoms would immediately subside. Such cases, however, generally proved fatal.

At first the disease seemed to be confined to the large intestines, but as it advanced, it assumed an upward tendency: the pain and tenderness, which, in the onset, pervaded the hypogastric, gradually rose to the umbilical and epigastric regions; and in the course of a week, sore throat, and sometimes aphthous sore mouth, would make their appearance, which facts strongly intimate that the entire length of the mucous membrane of the alimentary canal was involved. Coldness of the extremities and alarming prostration occurred about the end of the first week, and unless promptly combatted with tonics and stimulants, would soon place the patient beyond the reach of remedial means.

The whole chylopoietic viscera seemed to be in a state of derangement. The liver was torpid, except in a few instances, in which the discharges were of a bilious character. Much tenderness existed over the region of the kidneys, and after the fourth day, dysuria was a prominent symptom. The urine became scanty, of a reddish-brown color, and sometimes entirely suppressed.

The sequelæ of this disease also present something novel in the train of dysenteric affections. In almost every case in which the urine was scanty, high-colored, and voided with difficulty, the patients, during convalescence, were attacked with acute rheumatism, with its usual symptoms, pain, stiffness, tenderness and swelling of the joints, and in a few instances of the most aggravated character, rendering mobility of the extremities almost impossible.

The plan of treatment at first adopted was found inadequate, and frequently injurious. In no case was venesection found to be admissible. Bleeding, either general or local, was followed by alarming prostration. Emetics, for the same reason, were seldom used. Cathartics, unless of a mild character, aggravated all the symptoms of the disease. Although the liver was morbidly inactive, yet the exhibition of calomel, and other forms of mercury, contrary to expectation, were productive of so much injury that its use was discontinued by general consent of the profession. Blue mass, in emulsion with gum Arabic and sugar, was less objectionable, and was prescribed when mercurials were indicated.

Opiates and astringents were the chief means of allaying the irritability, and arresting the progress of the disease. The quantity of opium borne by patients, was remarkable; many cases occurred in which more than a drachm of opium was administered daily, without producing its peculiar narcotic effects. When taken in such quantities, however, an eruption soon after appeared, of an exanthematous character, of a pale red color, and evenly spread over the whole surface of the body. When this made its appearance, the disease seemed to subside, and generally terminated favorably. Saccharum saturni, in combination with opium and camphor, was used with decided benefit, though generally

the vegetable astringents were preferable, particularly the Hieracium pilosella, and Geranium maculatum. In conjunction with the foregoing, mucilaginous drinks, warm ablutions, and rubefacient applications to the abdomen, were employed with advantage.

Enemata of starch and laudanum throughout the whole course of the disease, were of immense advantage in diminishing the pain and irritability, and also the amount and frequency of the discharges. Diaphoretics and diuretics were used with much advantage.

The rheumatic affections which followed, were treated with nit. potash with Dover's powders, in large doses, as long as it could be borne by the patient. Perhaps the history of an individual case, will illustrate the treatment of this distressing affection, more fully than otherwise.

Aug. 18th, 1847. Called to see J. S——, whom I had attended through a severe and protracted course of dysentery; had been attacked the day previous with pain, stiffness, and swelling of the joints of the lower extremities; found him suffering acute pain in the joints, which were red, tender and considerably swollen; tongue red and glossy; pulse regular, but small, wiry, and frequent, 100 per minute; bowels regular; urine scanty, deep red color; skin dry and hot. Gave nit. potash and Dover's powders, in the proportion of 20 of the former to one of the latter, in scruple doses every two hours.

Aug. 19th. Little change. Appetite slightly increased, skin dry, pulse more active, no abatement of pain, joints continue to swell, no sleep. Continue nit. pot., in half drachm doses every two hours.

Aug. 20th. Appetite good, urine gradually increases in quantity, bowels move daily, dejections natural, skin slightly moist, pain and swelling of the joints much increased. Continue nit. pot., in half drachm doses every hour.

Aug. 21st. *Morning.* Found the patient suffering intensely, joints more swollen, no subsidence of pain, heat, and tenderness, pulse less frequent but strong, urine copious. One drachm nit. pot. with two grs. Dover's powders, every hour.

Evening. Called in great haste; found him vomiting, attended with severe spasmodic action of the stomach. Urine very copious and clear, perspires freely. Gave xxx. gtt. sol. morph., which allayed the retching and spasms. Omit nit. pot.

Aug. 22d. Has slept well, entirely free from pain, joints almost free from tenderness and swelling.

Aug. 26th. Is able to walk without inconvenience. In two weeks afterwards, felt no effects of rheumatism whatever.

Such is a brief history of a disease which has, in a given period, caused more mortality than any that has pervaded this section of country since its early settlement.

Art. VIII.—*Remarks on Strychnine.* By A. B. Case, M. D., of Howard, N. Y. (In a Letter to the Editor.)

Professor C. A. Lee—Dear Sir,—In answer to your note, permit me to briefly state, without comment, the following cases:

I saw a lady aged sixty. Three years before, she had had an attack of apoplexy, which left her with incomplete paraplegia, from

which she gradually recovered, with the exception of paralysis of sensation of the arm and forearm; these she could move in any direction, but had no feeling in them. On one occasion, the forearm was burned so that a blister was formed as large as a dollar, and her attention was only directed to it by seeing her dress on fire. I attempted a cure with nux vomica with no beneficial effect, but by frequent shocks of electricity and friction with Croton oil, the feeling was re-established.

A robust man, aged thirty, had an attack of rheumatism of the knee; it was treated by bleeding, calomel, colchicum, blisters, &c. The swelling and pain were removed, but a complete paralysis of motion of the whole limb remained. By the use of nux vomica and dry friction, it recovered.

A lad, æt. sixteen, fractured his skull on the anterior and inferior portion of the right parietal bone, forcing a portion of it into the substance of the brain. On recovering from the primary effects of the injury, there was a paralysis of motion and sensation of the side of the face *corresponding with the fracture*. I paid but little attention to it, for a while, supposing that nature would complete the cure. After three or four weeks, I observed that there was no improvement, and that the transparency of the cornea was diminishing. I gave the nux vomica, which seemed to arouse the action of the motor nerves, but the opacity and obtuseness of feeling continued to increase. I next applied a blister to the temple and introduced some strychnia to the abraded surface, by which the motion was nearly restored, but without benefitting the opacity or feeling. Friction with Croton oil and galvano-magnetism was then resorted to, under the use of which, the feeling soon began to return, and the opacity to diminish, and in three weeks the feeling was nearly restored and the eye greatly improved. A complete cure followed.

A curious case of *local* paralysis agitans recently came under my observation. The patient was a young man, aged twenty-three, clerk in a country store. The first that he noticed it, was about six months before I saw him. At that time, according to his account, it was more like chorea than anything else. It was confined to the upper extremity of the left side. At the time of his application to me, the whole limb was in continued vibratory motion, every muscle appearing to participate more or less in the involuntary action. His general health was and had been good, had had no pain, neither could he assign any cause for its present condition. He could move it in various directions, and it was a little more sensitive to cold than the other. This case got well under the use of nux vomica and dry cupping on the cervical and dorsal regions. As these remedies were used simultaneously, I cannot decide on their relative value.

From these and other cases, I have come to the following "conclusions" relative to the remedial powers of strychnia and nux vomica; having usually used the latter article:

That although it acts with energy on the nervous system generally, it acts with most energy on the nerves of locomotion.

That when given in proper doses and under proper circumstances, it equalizes and increases nervous action, hence producing a tonic effect.

That a kind of tolerance to its use is soon produced, in most cases, and to avail ourselves of the greatest advantages in prescribing, the doses should be rapidly increased.

That this tolerance is most striking, and its beneficial effects more apparent and sooner produced, by beginning with small doses and repeating them frequently:

That its use should be confined to functional diseases:

That when given to debilitated and nervous patients, its good effects are greatly increased by combining it with *creosote*, that a combination of the two articles produces a much more happy effect than either given separately:

That in paralysis following apoplexy or other affections of the brain, it is judicious to anticipate its use or combine it with *hydr. potassa*, or some preparation of iodine.

ART. IX.—*Remarks on the Medicinal Properties of Witch-Hazel.* By JAMES FOUNTAIN, M. D., Peekskill, N. Y. (In a letter to the Editor.)

DR. LEE.—DEAR SIR,—In your very polite reply to my random and desultory remarks, among other things you ask the result of my experience in the use of the *Hamamelis Virginica*, especially in relation to its *narcotic property*, if it have any.

I have employed the Witch-Hazel for more than thirty years, in one way or another, as a remedial agent. My attention was first called to it by the country-people around me, who use it for all manner of hemorrhages. I once met a young man going to market in his wagon, and having by his side a branch of the witch-hazel in full foliage. I knew that his father and mother, and all the family, no less than eight or ten in number, except himself and a younger brother, had died of consumption. He, too, was pale and emaciated, and bade fair soon to follow them to the tomb.

He told me he dare not leave home without the witch-hazel, to stop his spitting blood, for as soon as this appeared he chewed some leaves and swallowed the juice, with the invariable effect of arresting it at once. He has ever since continued to use the leaves, or a decoction of the bark. Either of these, arrest the hemorrhage and relieve the pains of the chest promptly. He has since lived many years, although his health is not good. But I presume he owes his life to this one article. This is only one of the many similar cases of its successful effects.

As the shrub grows abundantly everywhere, I often direct the poor to the use of it for various purposes, where astringents and anodynes are required. It does not arrest diarrhœas, or any morbid secretions, so remarkably as moderate hemorrhages, especially those of the lungs, stomach, and intestines. In hematemeses I have found it to operate like a charm. It appears to be especially adapted to young and irritable subjects.

As to its anodyne property, I told Dr. Peixotto, formerly an editor of the New-York Journal of Medicine, etc., many years ago, that I was convinced it possessed such a principle decidedly. Since then, I have consulted every author accessible to me, but I find no notice of such a property, except by Professor Rafinesque, and by the United States Dispensatory. They speak of its "*sedative*" property. By which I presume they really mean narcotic after all.

I was led to this conclusion from its relieving pain in cases of hemoptyses. By allaying or diminishing irritability, it lessens the tendency

to this disease as well as to hematemesis, and thus lays the foundation for a permanent cure. A few years ago, a poor woman brought a pale, emaciated girl of some five or six years old, to the door, and asked my son what she should do to stop her from vomiting up blood, which she did daily? He replied, let her have a tea of witch-hazel bark freely and daily. In a few months, she was a fine healthy and robust girl.

It is in cases of piles, however, that its anodyne property is more manifest. Our Dispensatory says, "it is used in the shape of a poultice, or as a wash in the form of decoction in hemorrhoidal affections, etc." But my experience goes some farther than this, for the sudden and decided relief it affords to the pain and soreness of the piles.

Please to excuse me for giving you the history of my own experience in this troublesome disease. It may, at any rate, afford you a little amusement. You remember Dr. Rush said, "as bees gather honey from the humblest flowers, so we must listen to the tale of experience, though told by an old woman."

In the early years of my practice, I followed my books, and prescribed internally Cream of Tartar and Sulphur, and externally I used the Nut-gall Ointment. I was soon told, however, that as an external application, the ointment of the D. stramonium was preferable. And I found it so. When properly made, it affords prompt relief in subduing the soreness and pain. But by experience, I learned that it performed a cure sooner by adding to it finely-pulverized Nut-galls, thus making it anodyne and astringent. This was my standard application for many years, and I was satisfied it was good enough.

About ten years ago, or so, however, a new ointment from the East, somewhere in the neighborhood of Danbury, in Connecticut, was peddled about the country, and acquired great fame as an infallible cure for the piles. And, in truth, it did succeed admirably. Its effects, as an external application, were sometimes truly surprising. Accidentally the recipe for its make fell into my hands, and here it is.

℞. White-Hazel bark. White Oak bark, the inner part. Sweet Apple tree bark, of each three handfuls. Water, three quarts. Boil down to one pint—strain; add lard half a pound, simmer out the water, stirring it continually, before and after removing it from the fire, till it cools. It forms a brick-colored, anodyne, astringent ointment—admirably adapted to the cure of hemorrhoidal tumors.

Permit me to say, that for internal piles, or those within the rectum, when a syringe tube can be introduced, I find an injection of lamp oil affords remarkable relief.

I recently made a striking cure of a man greatly exsanguined, emaciated, and weak, from the bleeding of piles within the rectum, by administering a teaspoonful three times a-day, of equal parts of Bals. cop. and Tinct. Mur. Ferri.

Dr. Sewall, or some one else, a few years ago, recommended aloes for the piles. Thus, ℞. *Aloes soc.*, *Aniseed*, aa ℥ i. *French brandy*, a pint—digest, etc. Dose sufficient to keep the bowels free. This has been for years my constant remedy, and it operates most admirably. A teaspoonful a-day is often enough—but more is generally required.

ART. X.—*An Account of a Disease peculiar to the Workmen in Brass-cock Foundries.* By AUGUSTUS KINSLEY GARDNER, M. D., Fellow of the N. Y. Academy of Medicine, Physician to the N. Y. Dispensary, etc., etc.

THE introduction of Croton water into the city has brought with it not only its peculiar artisans, but also its peculiar diseases. The general use of this water has made a great demand for the brass cocks and faucets used in drawing it. To meet this call, a company in this city, some two or three years since, sent an agent to Manchester to obtain workmen able to follow this occupation. Twenty men and their families came out, most of them young and vigorous, few numbering more than thirty years. It is of a disease peculiar to them that I have now a few words to say.

Shortly after their arrival here, I was called to treat several of them with various ailments, either produced by a long voyage, or from improper food and exposure after landing and during the period of acclimation. They proceeded to commence their labors. In the course of a few weeks I was called upon by Mr. W., a man of family, and, as I have since learned, of exemplary character. He complained of great pain in his bladder and kidneys, and had at the time a yellowish discharge from the urethra. Supposing it to be simple gonorrhœa, although he denied the fact, I prescribed accordingly. The medicine acted freely upon the bowels, and in a few days he was quite well. Some six months after he had another similar attack of what he styled "the gravel," but without the urethral discharge. A succession of laxatives, Pulv. rhei et sodæ, soon relieved him.

After a few days had passed, Mr. R., living with Mr. W., was also seized with "the gravel;" which troubles, an aperient with Spts. nitr. æth., easily removed. I had several other similar affections from different workmen about that period.

During the past August, Mr. R., residing in Brooklyn, came to my office with similar complaints. He had been unwell some days and had taken several doses of Castor oil, which had operated well, but the pain in his bladder still continued, accompanied with difficulty in passing his urine. I ordered him to take of Pulv. rhei et sod., laxative doses, and a tea-spoonful every four hours of the following:

℞ Miscil. Acaciæ, . . ℥ ij.
Tinct. Cubebæ,
Spts. Nit. Æth. . . aa ℥ ss.
Tinct. Cantharid. . . 3 j.—M.

The next afternoon, (Sunday,) he sent for me. Pain much increased in the bladder and it had extended to the kidneys. Had had one or more alvine discharges. Some dysuria. Pulse good, 78. Tongue coated and dry. Teeth having a dark line around near the gum, which he said was common with brass workers. I ordered a drachm of Sol. sulph. morph every hour till the pain was quieted.

Monday. Pain not relieved, had taken three grains of Sulph. morph. No action of the bowels. Tongue and pulse unchanged. Abdomen tumefied, soft, tender on pressure. Somewhat tympanitic. Great sensitiveness in the region of the kidneys. No appetite; drinks, etc., rejected. Frequent calls to urinate, with but little ability.

℞ Hyd. Submur., . . grs. xij.
Pulv. Jalap, . . " xv.—M.

Continue Sol. morph. if the pain continues severe. Inf. buchu ℥ ij. ter in die.

Tuesday. No better. The calomel and jalap not operating, he had repeated it without effect. Pain continues excessive, unrelieved by Morphiæ. Dysuria continues, but less than yesterday. ℞ Sennæ and salts. Fomentations of hops to abdomen. Enemata.

Wednesday. No operation of bowels and little change from yesterday. Enemata returned without effect. Patient imagined he had a calculus in the bladder, as he had passed one some years previously, and thought that the pains in the bladder were similar. Pains in kidney much mitigated. Passed a silver catheter, no calculus discernible. Had slept some, the fomentations giving much relief.

℞ Ol. Ricini, . . ℥ j.
Ol. Tiglii, . . gtt. j.—M.

To be repeated in four hours if there be no operation.

Thursday. Much easier. Had a free motion of the bowels after repeating the Ol. Tiglii. Dysuria continues, though lessened. Tenderness of the abdomen vanished. Is slightly salivated. From this day the patient recovered rapidly, and on Monday partially resumed his labors.

The treatment of this case in administering Tinct. Cantharid., though in small doses, was unquestionably wrong, although the original symptoms, perhaps, justified it. The disease finally had the appearance of colica pictonum modified. The use of opium has the support of the great body of practitioners, as also does the exhibition of calomel, yet the former produced no sensible diminution of pain, and the latter no visible action except in producing salivation.

A brother of the above, Mr. R., employed in the same business, has had a similar attack, and was treated by a physician for inflammation of the bowels. He has now partial paralysis of both hands.

Sept. 10. Was called to Mr. J. W., who some six weeks since had a slight attack of sickness, some febrile symptoms and constipation, which slight purgations easily removed. Had not felt well since—had little appetite, and complained of weakness. Had, on that account, left the establishment in which he had worked, and gone to another where the work was lighter, but where the brass was of poorer quality, *i. e.* contained more lead. He had been but a few days in this shop when he was taken ill, and took some "bilious pills," which operated freely during afternoon and night. The next morning at eight o'clock, when I saw him, he said he was no better, complained of pain in abdomen. Pulse 70, soft, skin cool, tongue partially covered with thin white coat. Teeth and gums similar to those of all in the business. ℞ Pil. Opii, No. 1, quaque hora 2nda.

5½ *p. m.* Having taken these pills at regular intervals without relief, he had taken two together about an hour before I came; was much worse than in the morning, rolling and tossing upon the bed. I gave him, immediately, three of the pills, and waited an hour, during which time he had no ease. The opium seemed not to have the least effect. Ordered sinapisms to the abdomen, and

℞ Ext. Conii, . 3 ss.
Ol. Tiglii, . gtt. xij.
Magnesia, . q. s.—M. ft. pil. No. xij.

He took half of one, and in a half hour the remaining half. I ordered him to take one every four hours till operation.

12½ *a. m., Sept.* 11. Had taken two more pills, pain increased, patient seemed frantic, sinapism had vesicated. Continue pills one every three hours. Fomentations of hops to abdomen, applied as hot as possible. Enemata.

6½ *a. m.* Had taken two more pills without operation. Had some vomiting. Fomentations gave some little relief. Enemata have come away unchanged. Continue fomentations, pills every two hours, and asafœtida enemata, with castor oil and turpentine.

3 *p. m.* Has taken all the pills, no operation, no relief. Had slept a little. I had taken with me a vial of Ol. Tiglii, which from previous use I knew to be good. In an ounce of castor oil I gave gtt. vj. at one dose.

6 *p. m.* No change. At the desire of his wife, I requested Dr. W. N. Blakeman to accompany me. Pulse 78, soft. At his instance, for the purpose of relaxing the system, Pulv. ipec. was exhibited—grs. x. every half hour. Large and stimulating enemata. Hip bath.

11 *p. m.* Had two small passages of the bowels, of a soft character, but with no relief from pain, except temporarily while in the bath, which he had taken twice. Ordered Ol. Tiglii, gtt. ij., to be taken at one p. m., if the pain be not abated. Continue fomentations.

Sept. 12*th*, 6½ *a. m.*—Had two small stools since last visit; slept some; pain but little less.

℞ Alumina, 3 j.
Camphoræ, ℈ ij.—M. ft. chart. vj. una quaque hora 2nda.

2 *p. m.* Pains somewhat easier after each powder, but unmitigated when the immediate effect is passed. Continue. As the patient was unaccustomed to the use of tobacco, advised smoking, to be arrested with nausea and recommenced after that has passed by.

8 *p. m.* The tobacco had caused considerable nausea, but had not in the least relieved the pain, which continued unabated. Gave 30 drops of Majendie's sol. sulph. morph., which entirely quieted all pain and produced some sleep. At 9 p. m., Dr. Sweney was called in, who approved of past treatment and advised continuance of Ol. Tiglii. This was done as follows:

℞ Ol. Tiglii, gtt. xij.
Mass. Hydrarg. 3 j.—M. ft. pil. No. xij. unam quaque hora quarta.

And every intermediate second hour ℥ ss. equal parts castor oil and turpentine.

Sept. 13, 8 *a. m.* Had no renewal of pain; small passage from bowels; continued from this time mending.

Those cases are but brief reports of the symptoms which characterized the diseases of these workmen. It is a matter of some doubt what is the cause. The "composition" in which they work contains at the most but 4 lbs. of lead to 50 lbs. of the other ingredients, copper, spelter or zinc, sometimes antimony and bismuth. The workmen have an idea that "old rusty metal" is more unhealthy than the pure ore. The workshops are—especially Metcalf's, in Centre street—spacious

and freely ærated, having an abundant supply of Croton water, soap, etc. The workmen need, necessarily, handle the blocks of metal but very little, instruments being provided for the purpose. Notwithstanding this, the fragments of metal thrown off while turning, do enter their hair, though the head is covered with a cap, and their clothes, dyeing them all with a greenish tint. Their shirts, when washed, color the water with the same hue.

The appearance of these workmen is remarkable. Though some of them have worked forty years in the same business, and in England, where a much poorer metal is used, *i. e.* containing more lead—without ever being rendered ill, they all have a peculiar unhealthy countenance. Their skin is sallow and wrinkled; perhaps they may be muscular, but rarely with much adipose matter—looking prematurely old, in that particular having a marked contrast to their buxom, hearty wives. Their children, too, seem vigorous and healthy.

Much might probably be done as a preventive to this disease, so similar to colica pictonum in its symptoms. Mr. Metcalf is in the habit of taking himself, and recommending to his workmen, a tablespoonful of sweet oil every morning. Frequent change of body-linen would undoubtedly be beneficial. The workmen are accustomed to wash frequently, yet this, perhaps, may be carried to such an extent as to be injurious. I conceive that washing the hands and returning immediately to work would be deleterious, as the danger of an absorption of the injurious particles of metal would be far greater than with a dry hand, though coated with the dust.

The object of this article is not to throw any light upon the treatment of this complaint, but merely to make its existence known, that it may not be confounded with enteritis or any similar malady.

Art. XI.—*Two Cases, with Remarks.* By Moses Gunn, M. D., of Annarbor, Michigan.

The following are the notes of two cases, which were to me extremely interesting, and which seemed not devoid of novelty. The first I look upon as essentially Epidemic Erysipelas advancing to a suppurative stage, and differing only from the ordinary cases of that disease, in the part attacked:—the face. Scalp and fauces being the usual seats of this malady. With regard to the treatment of this complaint, I agree with my friend Dr. Griscom, as he expressed himself in the July No. of your journal: that the stimulating and diaphoretic treatment is the most effectual, particularly as we are seldom called in the early stages of the disease. With regard to local stimulating applications, I must differ from his experience. If where he says, "that they seem to do no good," he means that they fail to arrest and cut short the course of the Erysipelatous phlegmon, there I agree with him, for I have never applied them to answer such an indication. I have looked upon the disease as one that must run its course, and have feared its recession; hence stimulating applications have been combined with the general remedies to prevent such an event, and to hasten the disease through a natural course.

For the other case I have no name, unless it be Milk *Arm.* Of the early history of the case I can learn nothing very definite, except the

confinement and subsequent swelling of the arm. Whether the latter phenomenon was the consequence of the recession of the mammary secretion, or the mere coincidence of an idiopathic inflammation of the fascia of the arm, I am at a loss to determine. There was a scrofulous taint in the family, and whatever was the original nature of the disease, it subsequently assumed a scrofulous character, and, it will be perceived, yielded to the class of remedies usually directed in such cases.

Case I. On Wednesday, April 7, 1847, I was called to see Mrs. I. K. the patient of another practitioner, who on account of business in an opposite direction, was unable to attend to the call. The patient had been confined with her first child four weeks previously, and had given birth to a fine healthy child. She was recovering, but slowly, though her physician had not seen her for several days, when the messenger brought word that she was much worse, and that her arm was swelling rapidly. I immediately visited the patient, and found her much emaciated from previous confinement, and suffering from intense pain in her left arm, which was badly swollen from the shoulder to the tips of the fingers, and of a uniform erysipelatous redness—pulse hard and 130—tongue covered with a thick brown coat, the existence of which in certain cases of the disease has given rise to the popular name of "Black tongue." On inquiry, I found that the father of the patient was just recovering from the latter disease, and that he had lain during his sickness in the same room which she had occupied. This left no room in my mind for doubt as to the nature of the complaint. Her bowels having been moved, I put her upon the use of the following—

℞. P. Doveri,
Potass. Nitr. aa grs. xxiv.
M. ft. pulv. No. viij.
One powder to be taken every two hours.

Being several miles from town, and having neither Corrosive Sublimate, Nit. Silver, or other stimulating applications, I directed the frequent application of hot spirits of turpentine over the whole surface of the arm. The case, with its treatment, was reported to the attending physician, and I heard nothing further from it except that relief was experienced from the terebinthinate application, and that the case was running the usual course—swelling subsiding and cuticle desquamating—until Apl. 25th, when I was requested to take charge of the patient. I now found her in an extremely low state, and had I not known the previous history of the disease, I should have pronounced it a case of suppurative inflammatory rheumatism of the deep fascia. The arm had opened on its inner aspect, and was discharging healthy pus. The forearm was distended from the elbow to the fingers by a collection of matter beneath the enveloping fascia of the muscles. Fluctuation was distinct at any point, but extremely so at the back of the hand; she was suffering from night-sweats and wakefulness—pulse 136—small and feeble. I introduced a lancet into the back of the hand, and evacuated several ounces of laudable pus, directed a poultice to the wound, placed the hand in a position to facilitate the escape of matter from the forearm through the wound in the hand, and put her upon the use of the following diaphoretic solution of Quinine:

℞. Spts. Mindere. i.
" Æther. N. aa ℥ij.
Sulph. Quinine. grs. xxxij.
Ft. solutio.—A teaspoonful every four hours.

Directing the breasts to be frequently drawn, I left the patient.

27th. Patient appears rather better—pulse 130—forearm considerably lessened in size, and both openings are discharging laudable pus. Continue remedies, keeping bowels open with mild aperients.

29th. The forearm has resumed its natural size—slight discharge from the lower wound—a slight swelling appears in the lower part of the gastrocnemius—pulse 130. Continue remedies.

May 2d. Less discharge from openings of arm and forearm—increase of swelling in the gastrocnemius with contraction of the tendo-achillis—pulse 120. Continue remedies, with the free application of the volatile liniment to the swelling of the leg.

5th. No discharge from the forearm—less from arm—increase of swelling on leg—pulse 114. Continue remedies, laying a blister over the swelling of leg.

8th. Patient better in every respect—I directed her to exercise the limbs carefully, and gradually to discontinue the medicines.

24th. I again saw the patient, and found her nursing her child. There is still slight contraction of the gastrocnemius, but it is gradually yielding. Adhesion between the tendons of the extensors of the fingers and their sheaths has taken place, preventing the perfect closure of the hand. There is also a contraction of the fascia at the bend of the elbow, preventing the perfect extension of the forearm.

Since the above date, the patient has recovered entirely the use of the foot, and is gaining gradually the free motion of forearm and hand.

Case II. On the 2d of February, 1847, as I was passing a house in the country, I was requested to call and see a "bad arm." The patient was a female twenty-three years of age, and the mother of three children. On examining the arm, I found it in a situation closely resembling that of the preceding case, at the time I took charge of it—the fascia of the forearm distended with a fluid, and an opening at the middle of the arm which was discharging a tolerably healthy pus. I learned that she had given birth, about six weeks previous, to a child between the seventh and eighth months, and that the swelling of the arm had supervened on the confinement. She was now much emaciated, and apparently very low, pulse feeble and rapid. She had been attended by a quack, (one of the Genus Uriscopia,) and learning that she was still in his care, I declined expressing an opinion of the case. Meeting however the quack in the street, *humanity* prompted me to give him a hint of the nature of the case, and I directed him to open the arm, and put her upon the use of tonics. I afterwards learned that the next day he evacuated from the arm a half pint of matter, after which learned no more of the case until May 4th, when I was sent for to visit another patient in the same family. I was now again requested to examine the arm, and prescribe for the patient, as she had been abandoned by her quack attendant as incurable. I now found her still more emaciated, with a pulse of 136, and feeble. Her bowels were irregular, she was suffering from colliquative sweats. The forearm had

resumed its natural size, but the shoulder was enormously swollen. The motion of the joint was entirely lost, and the swelling, which completely obscured the anatomical relations of the parts, was unusually dense. In tracing up the humerus, it appeared to enlarge from about the middle of the bone. There were two openings, which the subsequent disappearance of the swelling showed to be one above and one below the acromial extremity of the clavicle; from these there was discharging a moderate amount of healthy matter. Pushing my inquiries, I learned that scrofula was hereditary in the family. This array of symptoms and circumstances—the protraction of the disease—the immense swelling which seemed to blend all the tissues—the great debility—and the almost constant pain, which threatened to exhaust the little remaining strength of the patient, led me to hope for nothing, and to fear the worst. Giving her the miserable consolation, that "while there was life there was hope," I put her upon a mild but generous diet, regulated her bowels with mild aperients, and ordered the following—

R. Ext. Sarsaparilla, ʃ ʒ viij.
Potassii. Iodid. 3j.
Ft. Solutio—one half ounce to be taken three times daily.

R. Quini. Sulph. grs. xxiv.
Mucilag. G. Arabic. q. s. ut ft. mass.
divid. in pill. no. xxiv.
One pill three times daily with the Sarsaparilla.

R. Lupuli communis.
Farinæ Sem. Hordie. aa partes equales.
Aqua q. s. ut ft. Cataplasm.
To be applied to the whole shoulder at night.

R. Iodini. Tinct. q. s.
To be applied to the shoulder with a camel's hair pencil every morning.

After persisting in the use of this formidable array of remedies for four weeks, without making any impression upon the disease, except an alleviation of the pain by the sedative effect of the hop poultices, I felt like abandoning the case; but hope bade me look for what another week might shadow forth. At the end of this time, she was evidently improved, and although as yet, only slight alteration could be perceived in the physical appearance of the diseased part, the improved state of her pulse (110)—the alleviation of the pain, and the increase of strength, awakened, in her own mind, as well as mine, a confidence in the remedies, which undoubtedly contributed, not a little, to their after good effects. I continued to visit her, and directed her to take the air daily when the weather was suitable.

June 29th. I made the following notes.—Shoulder much reduced in size, enabling me to trace distinctly the spine of the scapula and the clavicle through their whole length—slight motion of the joint—fistulous opening above the clavicle healed, and only slight discharge from that below—pulse 96. I directed her to discontinue gradually the use of Quinine pills.

July 9th. I found her walking in the garden—the remaining fistula healed.

July 28th. Patient visited me at my office, having ridden eight miles to do so.—Since my last visit to her she has ridden six miles on

horseback, managing the horse chiefly with the sound arm.—Shoulder perfectly natural in appearance, though the humerus seems somewhat larger at its upper extremity than that of the opposite side.—Motion of the joint yet limited, though improving. She is quite fleshy, and seems in perfect health, though her menses have not returned.

Sep. 1st. Shoulder perfectly natural. Joint admits of extended passive motion, but voluntary motion quite limited.—Menses have returned, and health seems perfectly established.

ART. XII.—*Injury of Brain, with Chronic Abscess and Softening.* By CHAS. C. P. CLARK, M. D., of Middlebury, Vt.

AUGUST 27th, 1847. I was requested to visit J. E., æt. 17. On arrival, I learned that seven days before he had been struck in the left eye by the horn of an ox. The eye was dislocated, and lay partially attached, on the outer edge of the orbit. The sides of the wound were already adherent, so that the determination of its depth and precise limits was deemed at that time impossible, or at least unadvisable. I learned, however, from the surgeon who had first seen him, that on exploring the wound with his finger, he was satisfied that the wall of the orbit was broken through. When found, perhaps half an hour after the injury, the boy was sitting on a stone and possessed of his reason and senses, though somewhat confused. He gave an intelligible account of the manner of the accident nor had his nervous system given any evidence of derangement, other than I shall presently mention, up to the time of my visit. The pulse, when he was first seen, a few hours after the injury, was almost imperceptible, very slow and irregular; the extremities cold, the condition of the sound eye I could not learn. He complained much of headache, sometimes shrieking out with the violence of the pain, and was often affected with opisthotonic spasm.

When I saw him, seven days after the reception of the injury, he was in the following condition: pulse 52 and feeble, but regular. Pupil somewhat dilated and sluggish. No intolerance of light or sound; all the senses, in short, healthy. At irregular intervals he had headache and opisthotonic spasm, but these had been, from the time of the accident, growing less frequent and severe, and they continued steadily to diminish. The scalp was *perhaps slightly* warmer on the side affected than on the opposite side; and I thought I detected some confusion and sluggishness of mind, though he was rational. The treatment was that ordinarily pursued in such cases, though general bleeding, seeming to be contra-indicated, was not employed. All the symptoms steadily improved; in the course of a month the eye sloughed out, the wound healed, and the young man apparently regained his usual health, with the exception that he occasionally suffered from headache. I was asked, about six weeks after the injury, to see him in a severe attack of this sort. The pain seemed, for the most part, to follow the course of the supra-orbital nerve of the injured side, and was accompanied with symptoms of gastric derangement. It readily yielded to an emetic, antacids and

laxatives, from which I was disposed to regard it as neuralgic. In the latter part of October, I saw him on his way to his parents, who lived at some distance. He said he felt well, only that he occasionally had headache, but he did not know that it was different from what he had had before he was hurt. He seemed well, in mind and body, except that in conversation with him his memory and attention appeared less perfect than ordinary. The deficiency, however, being slight, might, I thought, be natural. On the same day, he had what, from the description, I judged to be an epileptic fit, while warming himself by the fire, and subsequently was confined four weeks by what his physician called typhus fever. After that, he suffered more than before from headache, principally in the back part of the head, which was relieved for a time by aloetic pills.

About the middle of January, 1848, I saw him again. At this time there was a marked deficiency in his mental faculties. His memory and attention, particularly his memory of names, were much impaired. He was unable to read, though, as he said, he formerly read well. The nature of the difficulty he had in reading he could not describe intelligibly; common objects he saw pretty well.

His physical powers, too, seemed weak, his breathing being much hurried on ascending a flight of stairs. Both the mental disturbance and the physical debility I thought might possibly be the effect of the attack of fever, though the probability certainly was, that disorganization was going on within the brain.

January 22d, in the afternoon, I was called to see him. I found him on the bed, stupid, though easily roused, and delirious, alternately; complaining at intervals of excruciating pain in the left side of the head, most posteriorly. Every few minutes there was opisthotonic spasm, particularly of the cervical muscles, not very severe. The pupil of the remaining eye dilated and insensible to light, but exhibiting slight and rare spontaneous movements. The voluntary muscles were under his control, except in the paroxysms of spasm, as were also the sphincters. Neither was there sensational paralysis. Irritation of the integuments of the left side of the head caused severe pain. The pulse was about 60, very feeble and very irregular. The tongue was coated, and the breath foul. The face was slightly flushed, but hardly warmer than natural. The surface, generally, of a natural feel, but the hands cold. The delirium was not so wild as that he was not easily controlled, though he sometimes attempted to get out of bed. I learned that he had gone into this state about twenty-four hours before. For two or three days previously, he had complained much of the time of excruciating pain in the head, and had been occasionally affected with tremors, but without the sensation of cold. For a week or more, his mental powers had been rapidly failing. He frequently said that "he did not know anything and never should;" that "he had forgotten all he ever knew," &c. &c. Seeing the impendency of death, I did little for him, and he died comatose, with little previous change in his condition, the same night at twelve o'clock.

Post-mortem inspection, sixteen hours after death. Scalp, bones of the cranium and membranes of the brain healthy, except as after mentioned; veins and sinuses of the brain turgid with blood. The brain was plainly swollen or fuller than natural, for on cutting the

dura mater it bulged out through the opening. On removing the brain, it was found that there were dense, organized adhesions between the membranes, the bone and the brain, with thickening of the membranes, at the posterior wall of the orbit of the injured eye. Two fragments of bone, fractured pieces of the posterior wall of the orbit, lay in contact with the dura mater, adherent to it, and one of them penetrating it and the pia mater. One of them was from the orbital plate of the frontal bone, the other, of the sphenoid. The area of both was perhaps one half a square inch. As the brain was removed, a drop of pus was seen lying at the point of the penetrating fragment, upon the dura mater, and from a corresponding wound in the arachnoid, pia mater, and substance of the brain, pus was seen to issue. On cutting into this part, the middle cerebral lobe of the left side, near its base, an abscess was opened, lined with thick and tough pyogenic membrane, and giving exit to one and a half ounces of white, stinking pus. The abscess did not extend into the lateral ventricle, nor in any direction beyond the lower half of the middle lobe. Above it, and around it, to a depth varying from half an inch to an inch, the cerebral mass was much softened, in parts semifluid, and of a reddish hue, and the redness extended beyond the softening. Otherwise the brain was healthy. The date of the patient's death was five months and two days from the time of the injury.

PART SECOND.

Critical Analysis.

ART. XIII.—*An Inquiry into the Influence of Physical Causes upon the Moral Faculty.* By B. RUSH, M. D. An Address delivered before the Am. Phil. Society, Feb. 27, 1786.

IT has often occurred to us, that the Physicians of our times do not pay sufficient attention to the influence of physical causes upon the moral faculties; while it is admitted, that mind and its manifestations are essentially involved with our organization, there being a constant and reciprocal influence maintained between them. It is not sufficiently considered, that the feelings and the moral faculties are no less powerfully controlled by causes affecting the physical organization, and that character itself often receives a bias, from influences not altogether within the control of the individual. That an intimate relation exists between our mental and corporeal natures has always been admitted; but while we have endeavored to understand how intellect and passion cause morbid derangements of the bodily functions, and thus lead to bodily disease, we have lost sight of the converse influence of corporeal states upon the *moral*, as well as *intellectual* faculties. It is a well-known fact that *St. Vitus's Dance* was not made a subject of medical research until the beginning of the 16th century; until which time it was admitted to be a demoniacal affection. It was Paracelsus who first undertook to withdraw diseases from the pale of miraculous interpositions and saintly influences, and explain their causes upon principles deduced from a knowledge of the human frame. At this period, a belief in enchantment, and in the power of the saints to inflict diseases, was universal; hence the reason why certain maladies were named after them, as St. Anthony, St. Vitus, etc. From that day to the present, it has been considered the province of the physician to investigate the nature of all abnormal manifestations, whether of body or mind; and while it is left to the theologian to expand and illustrate the precepts of the divine law, it belongs to us to expound the equally sublime laws of man's physical organization, and trace, as far as our humble faculties will permit, that mysterious and reciprocal influence between the mind and the body, which is equally seen in the frequent deranged action of both.

To our countryman, Dr. Rush, belongs the credit of first attempting to point out the influence of physical causes upon the moral faculty, meaning by this, "a capacity of distinguishing and choosing good and evil, or in other words, virtue and vice."

Dr. Rush considered "virtue and vice to consist in action, and not in opinion, and that this action had its seat in the will and not in the conscience;" hence he confined his inquiries chiefly to the influence of physical causes upon that moral power of the mind connected with volition, although he maintained that many of these causes act likewise upon the conscience. "The state of the moral faculty," says he, "is visible in actions, which affect the well-being of society. The state of the conscience is invisible, and therefore, removed beyond our investigation." In this able discourse, which has received far less attention than it deserves, Dr. R. first points out the effects of physical causes upon the memory, the imagination, and the judgment, and the analogy between their operation upon the intellectual faculties and the moral faculty, and he then proceeds, in a most masterly manner, to show how the same causes influence the moral faculties. "It is immaterial," he remarks, "whether they act through the medium of the senses, the passions, the memory, or the imagination. Their influence is equally certain, whether they act as remote, predisposing, or occasional causes.

The first cause which Dr. Rush mentions, is *Climate*, whose influence in modifying human character, and feelings, and conduct, as manifested in nations, and in individuals, is too manifest to need an array of facts to support it. The influence of season and the weather, is no less striking and important.

"The effects of *diet*," says Dr. R., "upon the moral faculty, are more certain, though less attended to, than the effects of climate. "Fulness of bread," we are told, was one of the predisposing causes of the vices of the cities of the plain. The *fasts* so often inculcated among the Jews were intended to lessen the incentives to vice; for pride, cruelty, and sensuality, are as much the natural consequences of luxury, as apoplexies and palsies." Dr. R. then proceeds to point out how the *quality* as well as the *quantity* of aliment has an influence upon morals, and how especially, the moral faculty is perverted by the use of *alcoholic drinks*. It is unnecessary to quote facts in proof of this position, as every one is aware of their temporary, as well as permanent influence, in debasing the character, and kindling every latent spark of vice into action. "Water," says Dr. Rush, "is the universal sedative of turbulent passions; it not only promotes a general equanimity of temper, but it composes anger." The next cause mentioned is *extreme hunger*, "which," says Dr. R., "produces the most unfriendly effects upon moral sensibility. It is immaterial, whether it act by inducing a relaxation of the solids, or an acrimony of the fluids, or by the combined operations of both those physical causes. The Indians in this country, whet their appetites for that savage species of war which is peculiar to them, by the stimulus of hunger; and hence we are told they always return meagre and emaciated from their military excursions." Cardinal De Retz acted upon a knowledge of this fact, when he suggested to politicians, never to risk a motion in a popular assembly, immediately before dinner. "One of the worthiest men," says Dr. Rush, "I ever knew, who made his breakfast his principal meal, was peevish and disagreeable to his friends and family, from the time he left his bed till he sat down to his morning repast, after which, cheerfulness sparkled in his countenance, and he became the delight of all around him." Dr. Rush then pro-

ceeds to point out how *bodily diseases* derange the moral sentiments, feelings, and character; in some instances leading to moral insanity, in which the intellect escapes unharmed, but the moral faculty is entirely perverted. "Not only madness," says Dr. R., "but *hysteria* and hypochondriasis, as well as those states of the body, whether idiopathic or symptomatic, which are accompanied with preternatural *irritability, sensibility,* or *mobility* of the nervous system, dispose to vice, either of the body or of the mind. It is in vain to attack these vices with lectures upon morality. They are only to be cured by medicine, particularly by exercise, the cold bath, and by a cold or warm atmosphere." The other causes mentioned by our countryman, as influencing the moral faculty, are *idleness, labor, excessive sleep, bodily pain, cleanliness, solitude, silence, music, pulpit eloquence, odors, light and darkness, different gases, medicines, imitation, habit and association, cruelty to animals, public punishments,* etc. These are all dwelt upon, and their effects illustrated by a great number of facts and cases, which cannot but convince the most sceptical. "Hitherto," says Dr. Rush, "the cultivation of the moral faculty has been the business of parents, schoolmasters, and divines. But if the principles we have laid down be just, the improvement and extension of this principle should be equally the business of the legislator, the natural philosopher, and the physician; and a physical regimen should as necessarily accompany a moral precept, as directions with respect to the air, exercise and diet, generally accompany prescriptions for the consumption, and the gout."

But of all the affections produced by physical causes, or the belief of a physical cause, *Tarantism,* or the *dancing mania* of the middle ages, was one of the most remarkable. "The persuasion of the inevitable consequences of being bitten by the *tarantula,*" says Hecker, "exercised a dominion over men's minds which even the healthiest and strongest could not shake off." It seems that after being bitten by the spider called *tarantula* in Italy, there was, according to popular opinion, no way of saving life except by music; hence, a lively tune, well adapted for dancing, called *tarantella,* was invented for this purpose, and bands of musicians perambulated the country during the summer months, "undertaking," says Hecker, "the cure of the *tarantali* on a grand scale." The symptoms consequent on the bite of the tarantula, were a peculiar melancholy, bordering on stupefaction, attended with a great sensibility to music; some wept constantly, and, as if pining away with some unsatisfied desire, spent their days in the greatest misery and anxiety. (Hecker.) So generally prevalent was this morbid state of mind, that it needed only a stimulus in the bite of a tarantula, to originate this violent nervous disorder; and when once seized with it, there was no effectual cure but dancing to the influence of the *tarantella.* "Even the clergy," says Hecker, "who wished to shut their ears against music, because they considered dancing derogatory to their station, fell into a dangerous state of illness, by thus delaying the crisis of the malady, and were obliged, at last, to save themselves from a miserable death by submitting to the unwelcome, but sole means of cure."

Hecker also relates an instance of a nun in a certain convent in France, who began to mew like a cat, and shortly all the nuns commenced mewing in a similar manner, which they kept up every day for several hours together. This cat-concert was only broken up by

placing a company of soldiers before the door of the convent, with directions to whip the nuns until they stopped mewing, which they speedily did. Zimmerman tells of a nun in a German convent who fell to biting all her companions, and in a short time all the nuns began biting one another; the news of this infatuation spread throughout the convents of Germany, and the biting propensity raged wherever the news spread, till it finally reached Rome. In 1805, an epidemic chorea, or St. Vitus's Dance, caused by religious enthusiasm, prevailed among the people of Kentucky and Tennessee, attended with violent convulsions, laughing, shouting, and dancing, and, according to Dr. Robertson, (*Inaug. Thesis. Phil.* 8vo. 1805,) travelled like electricity, with astonishing velocity, and was felt almost instantaneously in every part of the above-named States. "The outward expressions of their worship," says Dr. R., "consisted chiefly in alternate crying, laughing, singing, and shouting, and at the same time performing that variety of gesticulation which the muscular system is capable of producing. It was under these circumstances that some found themselves unable, by voluntary efforts, to suppress the contraction of their muscles; and, to their own astonishment, and the diversion of many of the spectators, they continued to act from necessity the curious character which they had commenced from choice. The disease no sooner appeared, than it spread with rapidity through the principle of imitation; thus it was not uncommon for an affected person to communicate it to the greater portion of a crowd, who, from curiosity, or other motives, had collected around him."

Those who have attended modern camp-meetings must have witnessed similar epidemic convulsive and fainting fits, brought on by mental excitement and religious enthusiasm, and propagated through crowds of nervous hysterical females, through the medium of sympathy. These are cases where the moral and affective faculties are powerfully affected, either through physical or mental causes, and reflected upon the corporeal functions, which also suffer.

In connection with this subject, the reader will doubtless call to mind the strange mental freaks and psychological phenomena attendant upon *hysteria*, that proteiform malady, in which the imaginations, the superstitions, and the follies of all ages are at times reflected.

It is true we have not now exhibited in an *epidemic* form, and in such appalling contrast and confusion, the peculiar characters of mental and convulsive maladies which marked the fifteenth century, when religious ecstasy and its opposite, the worship of the devil,—catalepsy, convulsions, homicidal monomania, lycanthropy, and other modifications of nervous disorder, spread over Europe, unchecked by the most stringent laws, by the most sanguinary executions, and by every species of punishment that could be invented. Then the belief in witchcraft and demoniacal possession was universal; this is now exploded, but in its place we have a belief in homœopathy, mesmerism, and all their marvels.

The ordinary forms of hysteria are too well known to need description here, but it is not sufficiently considered that the disease, in the words of Copland, "often manifests itself chiefly by disorder of the mental emotions and faculties." The mental affections connected with hysteria, are referred by Dr. Copland to one or the other of the following: 1st, Certain states of monomania, among which, excited de-

sire, amounting in some cases to nymphomania; 2d, *Ecstases*, and mental excitement, in some cases of a religious nature, in others of different descriptions. 3d, A state of somnambulism. 4th, A form of delirium, generally of a hypochondriacal kind, to which the patient may become subject, or even the victim, owing to indulgence from imprudently kind relatives. 6th, A desire to feign various diseases, sometimes of an anomalous or singular form. "In all these," says Dr. C., "the occasional occurrence of hysterical symptoms, complaints of shifting, transitory, or anomalous pains, disorder of the uterine functions, the nervous temperament and the hysterical state of constitution, will evince the precise nature of the affection." Again: "Hysterical females are not merely capricious or whimsical, but they often become enthusiastic, for a time, in the pursuit of an object, or in cherishing an emotion by which they have been excited. In many such cases, the nervous excitement and vascular turgescence of the uterine organs determine the character of the mental disorder, elevating certain of the moral sentiments, or of the intellectual manifestations, to a state of extravagance, passing, in some instances, into delusion or monomania." Cases, in illustration of these statements, will readily occur to every practitioner, and it becomes a matter of serious consideration, whether character itself does not sometimes innocently suffer from the strange mental freaks of hysterical females, who, in health, sustain a fair moral and religious standing in the community. At any rate, we think it behooves courts and juries to insist on medical testimony in all cases where female witnesses of a hysterical temperament are concerned; especially under circumstances wherein the witness may be justly suspected to have been laboring under a paroxysm of the disease at the time when the events in question are said to have occurred.

ART. XIV.—*Females and their Diseases; a Series of Letters to his Class.* By CHARLES D. MEIGS, M. D., Professor of Midwifery and Diseases of Women and Children, in Jefferson Medical College, etc., etc., etc. Philadelphia: Lea & Blanchard. 1847. pp. 670, 8vo.

THE late hour at which this work came into our hands, will prevent us from giving it that extended analysis which we would desire. It consists of 44 Letters, addressed to the medical class attending the Jefferson Medical College; and they treat of most of the diseases and accidents peculiar to the female, together with an account of the Physiology of Generation, making a neatly got up volume of 670 pages. The very high reputation of the author, in the branch on which he writes, is a sufficient guarantee of the general correctness and value of the instructions given in these letters. The second letter, entitled, "General Remarks on Conduct," contains many valuable suggestions in regard to the intercourse between the physician and his patient. The author strongly recommends a free use of our communicative faculties, and a habit of frankly explaining to patients the nature and probable tendencies of their maladies. Concerning the qualifications requisite for a physician, he very justly remarks as follows, viz.: "I think that, in order to be a physician, one ought to enjoy strong perceptive

faculties; he should be able to make nice discriminations; quickly perceiving the slightest shades of difference in all material forms, superfices, colors, weights, and resistance. The faculty of judging between the relations and differences of things should be of the primest quality; not sudden, hasty, and impatient in its operations, but slow, dispassionate and attentive. The mind and heart of the practitioner ought to be the shrine of truth and probity; his mind should not deceive itself, and his heart should not suffer itself to be deceived and misled, by any earthly temptation, from the narrow and rugged way of duty and conscientiousness. His intelligence ought to be vast, and acquainted, very generally, with what is called knowledge and science by mankind. Particularly should he be fully informed as to the nature of the life-force, as displayed in the various tissues and organs of any animal economy; not in that of man alone, but in the whole zoological series, as well as in the vegetable kingdom of nature."

The author's style exhibits considerable variety, passing from the simple narrative to the highest rhetorical flourishes. For samples of the latter style, take the letter on Sexual Peculiarities, of which the following is a fair specimen: "The great stage of the world, we are informed by the inspired writers, was prepared as the scene of a grand moral drama. The earth and all it inherits, is for man, his use, his delight, his *trial!* But this *mankind*—this genus man—what is it? It is an imperishable unit—it commenced at the beginning—it touches at the middle and the end of time. It is a vast wave rolling down the tide of time, ever rolling, ever descending. Its spray and its foam are lost in the sands or melted in the air, or the fragments of its mortality are broken off and swallowed up in the grave; but the unit is unbroken; the wave rolls onward, onward for ever; per-durable; and shall not be swallowed up till the last trump shall sound, and the last end be come. The sun himself 'grows dim with years,' but the unit, the genus man, springs ever fresh in immortal youth and vigor, like Antares of old, foreshadowing the immortality of that spiritual part to which Adrian, the pagan, addressed his speech as it was leaving the imperial possessor a mere dust-fragment of the vast, ever-living unit, man."

The author devotes four letters, occupying no less than 64 pages, to Prolapsus Uteri—of which the following is his closing summary:

"1. Prolapsus uteri is a disease of the *vagina*, not of the womb.

"2. To cure prolapsus uteri, you are to seek to cure the vagina, and when you have done that, the womb will be found cured also.

"3. The pessary is a suspensory, which is as necessary in the cure of prolapsus, as a suspensory is for an orchitis.

"4. I prefer, as a general proposition, the globe, to all other forms, and Dr. Physick's globe pessary to any other.

"5. If you apply the pessary in cases not suitable, you will do mischief. There ought to be no inflammation nor ulceration either of the vagina or womb."

With all due deference to the age and great experience of Dr. Meigs, we must express the opinion, that the whole of his treatise on this subject is directly calculated to inspire the minds of those he is addressing, with too much confidence in, and incite them to a too free use of, the pessary. Indeed, if the disease actually consists, as the

author perhaps justly asserts, in a relaxed and diseased condition of the vagina, we are at a loss to know on what physiological principle such disease is removed by keeping up mechanical distension of the parts. We do not mean to deny the occasional utility of the pessary; but that it is as necessary for the cure of prolapsus, as a suspensory is for the treatment of *orchitis*, is certainly contrary to our own experience, and we believe also to the united experience of the profession.

And although Prof. Meigs has admitted in his 5th proposition quoted above, that the pessary when applied to "cases not suitable will do mischief," yet we looked in vain through his four letters, for the detail of any other treatment for those cases. This we consider an important omission. Our author unreservedly condemns the use of "utero-abdominal-supporters," as the following paragraph will show. —"No, young gentlemen! the utero-abdominal supporter cannot hold up the bowels; it can make the belly too small to contain them, and they will make haste to get out of the squeeze by falling down into the pelvis, where they were not before, and ought never to be.

"How could the Surgeons of the United States and England, put their names, like so many notes of admiration, to such an anti-chirurgical and anti-physiological nonsense? . . . . . I thank heaven, you do not see my friend Dr. Hodge's name there; and you may take my word, that mine shall suffer from no such use of it."

There are many other things in the volume before us, that we would like to notice, and commend to the favor of our readers, if our time and space would permit, but we must defer it for the present. We do not object, as many have done, to the epistolary form, adopted by the author of this book: for the interest excited by its novelty, will perhaps overbalance the objections which have been urged against it. But we do most decidedly object to the many typographical and even *grammatical* errors found in its pages. We know that the common plea is, that such things are overlooked in the rapidity with which the work was carried through the press. This, however, constitutes no valid excuse; for there certainly is not such a dearth of medical works at the present day, that every author need to hurry his through the press without half examining the proof sheets. Indeed, we think it is high time that the profession began to demand of medical writers, both greater purity of style and accuracy of composition. And we know of no better place to begin, than with those who stand *highest* as medical teachers and writers. With these hasty comments we warmly commend the work of Prof. Meigs, as a highly interesting and instructive volume.

ART. XV.—*The Pennsylvania System of Prison Discipline—Triumphant in France.* Philadelphia, 1847. 8vo. pp. 24.

OUR readers are doubtless aware that a controversy has been going on for a long time, in this country, respecting the best modes of effecting prison discipline, and the amelioration of its evils. The Philadelphia Society, established as long ago as 1787, has laboured from that day to this, to establish the *separation* of criminals as the only true and just principle of prison discipline; while the Prison Discipline Society of Boston, instituted in 1825, has laboured with equal zeal to

establish the *Social* principle, in opposition to individual separation. It is now more than 60 years since the Philadelphia Society memorialized the Legislature of Pennsylvania, in favor of solitary confinement, with labour, as the most effective element of prison discipline, and from that time to this, they have held to the doctrine of strict, absolute, individual separation, as essential to any safe or wholesome scheme of convict discipline, however objectionable, or unfavorable, this principle appeared to others. From that day to this, *socialism* and *separation* have each had their adherents; and the controversy has been carried on with considerable asperity, and not always with fairness. In 1826, the Prison Discipline Society of Boston, espoused the *silent* in opposition to the *separate* principle; that is, they determined, that for convicts to work together through the day, and to be separated through the night, was preferable to separation both day and night, for which the Philadelphia Society was then, and had been long before contending. The Auburn system was commended, because it was cheaper, more healthy, safer for the mind, more profitable, and afforded better opportunities of religious instruction. The *separate* principle was opposed because it was supposed to require expensive construction, and was dangerous to the health both of mind and body, and would not allow the social congregation of convicts for religious instruction. Such are the main arguments on either side, which have been spun out into volumes.

In 1831, two highly intelligent gentlemen, Messrs. *De Beaumont* and *De Tocqueville*, visited the United States, as Commissioners from the French Government, to examine our public prisons. In 1833, they reported without qualification, in favor of the *separate* and against the *silent* principle. Commissioners from other European governments, also visited our country to examine our prisons, and with scarcely an exception, reported entirely and unhesitatingly in favor of the separate, or Pennsylvania, and against the silent, or Auburn principle. Our Boston friends, however, have not yielded the contest. They still go against the solitary system, although quite a feud has recently sprung up among them, which threatens the very existence of their organization, as a Prison Discipline Society. At the head of the dissentients stands George Sumner, Esq., who has recently written a long letter from Paris, to Mr. Quincy, Mayor of Boston, in which he gives a detailed account of the triumph of the separate system in France, and the good effects which have followed its adoption. It appears that there are now in France twenty-three prisons on the separate system. Mr. S. says:—

"In all of them the prisoners are separated entirely one from the other. Their rooms, which are neat, warm, and cheerful in appearance, are twelve feet long, six feet ten inches wide, and nine feet high. Each room has its flues for heating and ventilating, its fountain for washing, and the necessary conveniences of a private apartment. The cost of these prisons, including all the arrangements for water, ventilation, and the courts for daily walks, has varied from 1500 to 4000 francs per cell. The prisoner has the means of calling at any moment, by a signal, the keeper, who is bound to inquire and report his want. During the day he receives at least seven different visits, viz: those of the Directors—the Chaplain—the Teacher—the Surgeon—the member of the Visiting Committee whose turn it may be—the keeper, and of the person who inspects his labor. During at least one hour in the day, he takes exercise in the open air, in one of a series of courts, many of which are plant-

ed with flowers and freshened by fountains. A small library is attached to each prison. Those who are in custody only, can have as many books as they choose, and, if they see fit to work, an account is kept of their labor, and its proceeds paid over to them. For those who are undergoing imprisonment as the penalty of crime, only one hour a day is allowed for reading, and their labor is compulsory, one-third however of its profits is given to them as an encouragement to activity. Every Sunday there is religious worship, in which all the prisoners join, without seeing one another."

Not a very uncomfortable life this! A neat, warm, and cheerful apartment, well heated and ventilated, with plenty of servants, a clergyman, a teacher, and surgeon, at one's call; with an opportunity for reading, writing, study and exercise, for which one is well paid, we can scarcely imagine what more a man would ask, especially when surrounded with "flowers and fountains." We doubt very much the propriety of exempting convicts from such privations as will render their imprisonment a burden to themselves, if not a terror to others—and especially do we question the expediency of providing better fare and higher privileges for the condemned transgressor, than the poor, honest, and industrious citizen at large can enjoy. But while the offender feels the bitter consequences of his offence, the dictates of humanity are not to be disregarded, which urge us to mingle with his sufferings all suitable means of softening, improving, and if possible, reforming his moral nature.

But we are chiefly interested in this matter, as connected with its effects upon the health of the inmates. On this point, we quote without comment, the remarks of Mr. Sumner.

"For answers to the special charges which have been brought against this system, that it is the cause of insanity, and is unfavorable to the health and moral education of the prisoners, I invite your attention to the following extracts from private reports to the Minister of the Interior. From Bordeaux, at which place the separate prison of 168 cells has been occupied for four years, the Prefect writes, 1st April, 1846: 'It is now fully established that the health of the prisoners is better under the Separate System than under any other—that they receive with more fruit the consolations of religion—and that, not being excited by the bad example and counsels of their fellows, many reform, while none grow worse.' The physician writes, that he was formerly disposed to consider this system unfavorable to health, but his opinion has now changed. 'Only one original case of insanity,' he says, 'has occurred in the prison, and this was of a convict on receipt of the news of the rejection of his appeal for a new trial.' The Visiting Committee, composed of some of the most honorable and enlightened citizens of Bordeaux, write: 'For our own part, most of us having originally formed opinions unfavorable to the system of separation by day as well as by night, we deem it our duty to declare, that *experience has proved that we had fallen into error;* and that we consider the system of separate imprisonment, accompanied by labor, reading, religious services and daily walks—the system, in short, as it is practised at Bordeaux—as one of the reforms which reflect the greatest honor on our age.'

"The Separate System prison of Tours has 112 cells, and has been occupied for three years. The Prefect of the Department of which Tours is the capital, writes on the 14th of April, 1846, enclosing to the Minister the Reports of the Chaplain, Physician and Directors of the Prison. 'These reports establish,' says the Prefect, 'in the most complete manner, that in regard to the sanitary condition and the moral education of the prisoners, the system of total separation, so violently and so unjustly attacked, produces the most remarkable results. Of a total number of 1626 persons who

have entered the prison since its inauguration, 16 only have been transferred to the hospital, and one only has died—and this single case of death was of an old man of 70, who was laboring under a chronic affection of the lungs. If we seek for the influence which it exercises on the intellectual faculties of the prisoners, we must recognise that, far from disturbing their reason, it produces on their minds the most salutary results. In proof of this, I may mention that not a single case of insanity has occurred in the prison, and that many who have been condemned for a term, which requires their removal to the *maisons centrales*, solicit as a real favor, the permission to complete their imprisonment in their cell. Since my last report, of 17th January, 1845, I have received thirteen petitions to this effect.'

"The report of the physician, the enlightened Dr. Haime, declares that there are certainly fewer diseases under the new system than under the old, and that the contagious diseases of the town never penetrate the prison. He goes into full details, and in addition finds himself called upon to repel a charge publicly made against the prison. The facts, as he explains them, are these: 'A writer at Bordeaux had attacked the system of separate imprisonment, on the authority of the charges made in the Report of the Boston Prison Discipline Society, against the Philadelphia Prison, and having repeated these charges, had continued: 'At Senlis, at Vannes, and at Tours, the same results have been found, constant attempts at suicide—madness—frightful mortality!' 'It is not my province,' says Dr. Haime, 'to defend the Philadelphia prison from the attacks of the Auburnian Society of Boston; neither can I speak of the prisons of Senlis and Vannes; I have not seen them. But for that of Tours, I must declare that this writer has been led completely into error, imposed upon by statements totally false, conceived in party spirit, and which I defy him to prove.' He concludes: 'My own experience of this system serves to confirm the opinion twice solemnly announced by the Royal Academy of Medicine, that, far from menacing the existence, either physical or moral, of the prisoners, it is, on the contrary, as compared with former systems, eminently proper to fortify and ameliorate both."

"The prison of Rethel, in the Department of Ardennes, has 108 cells. The physician writes, in March, 1846: 'The sanitary condition of the prison is most satisfactory. Since it was opened, we have had no case of insanity, no suicide, no attempt at suicide, and not the slightest symptom, in any one, of a derangement of the mental powers. The cases of serious illness in 1845, were only four in number, and these having no connection with the construction of the cells. The 1st was a drunken butcher, who was ill for 10 days from *delirium tremens*. The 2d, a woman in childbirth, under treatment for 18 days. The 3d, an old man menaced with paralysis, under treatment for 6 days. The 4th, a prostitute, suffering the consequences of her vices. During the last three months of 1845, the whole expense for medicines in the prison was 5 francs 55 centimes—[one dollar and 3 cents!]. The only complaint generally prevalent is that of privation of tobacco. In one of my preceding reports, I said, from the observations which I had been able to make, I *thought* that Separate imprisonment might be applied without danger to those condemned for long terms; but now, from my further experience, I am prepared to be more explicit, and to *affirm* that the Separate System, as it is followed at Rethel, is far from being injurious to the health of prisoners, and that it does not in any manner predispose them to insanity.'

"From Montpelier, the physician of the separate prison, who is also a professor of the distinguished Medical Faculty of that ancient town, writes: 'There are fewer maladies under the new system than under the old. *Pulmonary complaints have above all diminished.* The average number formerly was 31 cases in 121. Under the influence of the new system, there have been only 17 in 112. Rheumatic affections have diminished one half. The epidemics of different seasons do not penetrate the cells, while under the old system, every disease in town was repeated in the prison. The cases which occur are not only less numerous than before, but are of shorter dura-

tion. Prisoners who were feeble, emaciated and languishing, on arrival, have acquired in a short time all the external signs of perfect health. Can any one doubt any longer of the good effects of the system on those who are well, when it aids so powerfully in restoring the health of those who are ill? Out of 658 men and 166 women received in the prison, 3 men and 1 woman have been put under treatment for mental derangement, but each one of them had shown signs of insanity before coming to the prison; and experience shows that the system of isolation, with its attendant visits, instead of increasing, has a tendency to moderate and quiet the predisposition to mental derangement.'

"The testimony of the professor of Montpelier relative to the diminution of pulmonary complaints, will, I cannot doubt, attract serious attention in America. The disadvantages, real or imaginary, of the Philadelphia prison, have been loudly trumpeted to the world, but few voices have been raised to give warning of the seeds of consumption, which are annually sown in our prisons. I have reason to believe, that if a careful inspection were made in the Massachusetts state prison, the number of those suffering under chronic or acute affections of the lungs would be found far greater than is generally supposed.

"You will perceive, sir, how complete and satisfactory is the evidence furnished by these prisons, in answer to the charges with which their system has been assailed. From all of the 23, but one opinion is expressed, as to the importance and safety of this great reform. In the extracts presented to you, I have purposely chosen prisons situated in the extreme parts of France, and occupied by populations differing widely in temperament, so as to meet the objection, which might arise in some minds, that the success of the system was partial only, and was due to certain peculiarities of climate or of social character. Bordeaux, for instance, is a southern city, having many poor, notwithstanding its great wealth, and afflicted with those vices which are so often found where the extremes of fortune meet. It has also a large sea-faring population, which there, as everywhere, is not remarkable on shore for its rigidity of life. Tours is surrounded by an industrious, agricultural population, but it is on the banks of the Loire, the boisterous boatmen of which help to people its prison. Montpelier is noted throughout France for the quick and fiery temperament of its population, accustomed to live in the open air, under the sunny sky of the south. Rethel, on the contrary, is a manufacturing town, in the extreme north, on the Belgian frontier, in a part of the country where lymphatic temperaments and beer-drinking are prevalent.

"In Paris, the great *Maisons d'arret*, on the Separate System, which will replace the Force, the Conciergerie and other minor prisons, have been for some time in construction, and will be opened probably in 1847. The cellular prison nearest to Paris, is that of the Department of Seine and Oise, at Versailles. The population of this prison is made up, in great part, of those who frequent the capital or who are among the hangers-on of the *ginguettes* and wine-shops of its *ban-lieu*. Here, if anywhere, one might look for but slight success from the adoption of the Separate System. The physician of the prison, Dr. de Balxac, professor in the Royal College of Versailles, writes, however, in May, 1846: 'The sanitary condition of the cellular prison is incomparably better than that of the prison in common. Experience has shown that the system is favorable to the health of the prisoners, that it has no deleterious influence on their intelligence, and the most simple observation enables one to satisfy himself, that it is favorable also to their moral education.'"

ART. XVI.—*Tracts on Generation. Proofs that the Period in Maturation and Discharge of Ova are, in the Mammalia and the Human Female, independent of Coition, as a first Condition of their Propagation.* By T. L. G. BISCHOFF, D. M., Professor of Physiology at Giessen. Translated from the German. By C. R. GILMAN, M. D., Prof. of Obstetrics, etc., College of Physicians and Surgeons, N. York; and T. TELLKAMPF, M. D., Gebhard Professor, Columbia College, New-York. S. S. & W. Wood, 261 Pearl-street, N. York. 1847. 8vo., pp. 65.

ALTHOUGH the *facts* contained in this pamphlet have been repeatedly laid before the profession, through the medium of some of our medical journals, yet the translators have done an acceptable service by presenting them in the form of a literal translation, thus enabling the reader to judge of the soundness of the conclusions, from the recorded facts and observations.

It has been abundantly proved by the investigations of Raciborski, Robert Lee, Gendrin, and others, that the ovary, at the time of each menstruation, is in a state of great excitement, and that a Graafian vesicle then bursts, and a corpus luteum is formed in its place. Our author confirms these observations, having examined four females who died suddenly during, or immediately after the act of menstruation; in three of them, he discovered ruptured Graafian vesicles on the ovaries, filled with coagulated blood; in the fourth, there was a vesicle enormously enlarged, (about seven lines in diameter).

It cannot be denied that one step has been taken in advance of what was known to the ancients, namely, the pre-existence of the ovum in the ovary in the human female, entirely independent of coition. The fact has always been known, that in relation to plants, as well as some of the lower animals, reproduction was dependent on the fact that a parent organism produced certain materials, ova or semen, by the direct action of which, the one upon the other, the germ capable of development was produced. The egg of the hen, and the ova of the frog, are cases in point. In many instances the formation and meeting together of these two generative materials, effected by no agency of their own, and their mutual relations, are often under the influence of many accidental circumstances. The fact, we repeat, that ova are formed, matured, and usually discharged, by the female organism, at certain regular intervals, quite independent of the formation and maturation of the semen of the male, which likewise happens either periodically or continually, has been known from the earliest times. But in the human female, as well as other mammalia, the formation of a germ, or ovum, was supposed to be the result of coition. This function was believed not only to render the female germinative material capable of development, but to *produce it.* We are indebted to Von Baer for the discovery, in 1827, of the ovarian ovule in the mammalia and the human female; and the reason it had escaped former observers, is to be found in its extreme minuteness. It was necessary, however, to go one step further, and prove that the discharge of the ovule from the ovary had no necessary connexion with coition. Our author, in his earlier investigations, tried to discover at what period after coition, the ovule was discharged from the ovary, in different animals, and what

part the semen took in this discharge. And he furnishes satisfactory proof, that the male semen comes in actual contact with the ovum, having penetrated through the uterus and the fallopian tubes to the ovary. This, however, was nothing more than the old doctrine, viz.: that the fecundation of the ovum takes place on the ovary at different periods after coition in different animals, the semen penetrating to the ovary, and causing the discharge of ova from it.

The law of the generation of mammalia and man, then, according to the present state of our embryological knowledge, may be thus stated:

In them, the ova advance in the ovary, through regular stages of development to maturity, quite independent of any agency of the male semen. These ripened ova are detached and discharged from the ovary, in the human female, at the period of menstruation; in the lower animals, at the period of heat. At this time only, moreover, is the sexual appetite manifested in the lower animals, and in the human female it is then strongest. If coition then take place, the fecundation of the ovum results from the direct effect of the male semen upon it. If coition is not then effected, the ovum is nevertheless loosened from the ovary, and enters the tube, where it perishes. The relations of time may vary, in different animals, according to different, but still defined limits. The semen may have sufficient time to reach the ovary before the ovum is discharged, and the semen may meet it in the tubes, but the effect of the semen upon it must always take place in the tubes, or it cannot be developed, the process beginning there. Coition can only result in fecundation at the time of the periodic maturation of the ova.

In the present work, our author confines himself particularly to the proof that in the mammalia, at the time of heat, ova are discharged from the ovary, and enter the fallopian tubes, whether coition takes place or not, and whether by its instrumentality, the semen be brought in contact with them or not. Our limits will not allow a detail of these experiments upon rabbits, dogs, rats, and other lower animals, our only object being, to state the results at which he has arrived. It has long been admitted, that the cause of menstruation, as well as sexual instinct, and of the whole female character, is to be found in the ovaries, and that the uterus, in this relation, is quite of secondary importance. The following facts, detailed by Dr. Roberts, in his Travels from Delhi to Bombay, in respect to the castrated women of India, are interesting.

The individuals he examined, were about 25 years old, of large size, quite muscular, and in full health; they had no mammæ, no nipple, no hair on the pubis, the orifice of the vaginæ was completely closed, and the pubic arch so narrow, that the ascending ramus of the os ischium, and the descending ramus of the pubis of the opposite sides, come almost in contact. The whole pubic region showed no deposit of fat, and the nates were not more developed than in males, while the rest of the body had the usual quantity of fat. There was no trace of menstrual secretion, nor any discharge vicarious to it; nor was there any sexual appetite.

These recent advances in embryological science aid us in explaining some facts, known from a very remote period; as, for example, that females conceive, most certainly, immediately after menstruation, and that no mode of reckoning the period of pregnancy is so accurate as

that from the last menstruation. Prof. Naegle states that he has never been deceived in regular cases, when reckoning 9 months and 8 days from the last period; and he also states that he has, in several cases, removed barrenness, by advising copulation immediately after or even during the menstrual flow.

It may then be considered sufficiently established, that in the human female, during menstrual life, the maturation and discharge of an ovarian ovule takes place every four weeks, accompanied by a contemporaneous discharge of blood, and that this periodical maturation of an ovule is the primary and principal condition on which conception and pregnancy depend, and that at this time, only, will coition be followed by conception. According to Bischoff, the discharge from the uterus begins while the ovule is still in the Graafian vesicle, and is not detached till the cessation of the flow; and while in the tube, it is probably capable of being fecundated for several days, if coition supervene. Our author is inclined to think, that the human ovum still exists in the tube, and is susceptible of fecundation for from 8 to 12 days after its discharge, and after the menstrual flow has ceased. This, however, is nothing more than a hypothetical opinion, requiring further investigations and proof, before it can be admitted. Our author, moreover, is of opinion, that no ordinary causes, such as physical or moral excitation of the sexual instinct, can accelerate the time of maturation of the ova, or affect the period of possible fecundation; and that all observation upon menstruation proves, that the postponing or anticipation of a period, is only produced by powerful influences. Menstruation, then, may be regarded as merely indicating the time of the ripening of an ovule; that it is the result or consequence of this phenomenon, has not been made to appear; it is, probably, a mere coincidence, and they do not hold to each other the relation of cause and effect.

The question may, however, be asked, if conception is dependent on menstruation, and this on the maturation of an ovum, how is it possible that females conceive, never having menstruated? Bischoff answers this question, by stating, that though the discharge of blood is a normal and easily-cognizable symptom of the maturation of an ovum, the latter is not essentially dependent on it, this periodic maturation of ova being seen, in the animal kingdom, both with, and oftener without, such discharge of blood. Menstruation, therefore, in the view of our author, is, in the human female, an entirely normal and important, though by no means essential, but rather accidental symptom of ovulation. It may be wanting, and yet ova mature, and be therefore susceptible of development and fecundation; and this may be easily reconciled with the fact, that in such women no diseased appearances are found.

We have no disposition to enter upon the subject of priority of discovery, in connection with recent advances in embryological science. Our author claims for himself, the exposition of the characteristics of the mature ovum, and especially its passing into the tube *without coition*, although it is very evident, that M. Pouchet had previously advanced the same opinion, and furnished important, though perhaps indirect proofs thereof. The grand discovery, however, in connection with this subject, and which has led to more recent discoveries, was that of Von Baer in 1827, who found for the first time the ovarian ovule in the human female. We trust the talented and meritorious

translators of the present work will proceed with the task they have so laudably undertaken, and give us still further translations of embryological works. We would commend to their notice, the able work of M. Pouchet, who, according to Bischoff, has developed the law upon which the generation of the mammalia and man depends, more perfectly than any preceding writer. We need not add, that it is the duty of every medical man to patronize the present undertaking.

ART. XVII.—*Materia Medica and Therapeutics.* By MARTYN PAINE, A. M., M. D., etc. New-York. Samuel S. & W. Wood. 12mo. 411 pp.

THE objects of this comprehensive manual are: 1st. To arrange the Materia Medica upon intelligible, physiological, and therapeutical principles. 2d. To indicate the relative therapeutic value of the various articles, under their different denominations, by arranging them in the order of their value. 3d. To give to the student a comprehensive and ready view of the merits of the various articles composing the Materia Medica, and of their relations to each other, physiologically considered.

This work is too well known to our readers to need any commendation from us; it is especially adapted to the use of medical students, particularly those in attendance on the author's lectures. The plan is entirely original, and has been very successfully carried out.

ART. XVIII.—*The Practice of Medicine. A Treatise on Special Pathology and Therapeutics.* By ROBLEY DUNGLISON, M. D., etc. 2 vols. 8vo., pp. 767, 729. Philadelphia. Lea & Blanchard.

THIS is a greatly enlarged edition of the excellent work of Prof. Dunglison on the Practice of Medicine, which we have repeatedly noticed on our pages. The author has freely availed himself of what has been written on the subject of pathology and therapeutics, since the appearance of the last edition, including the valuable Treatises of Canstatt, Fuchs, Wernderlich, Valleix, Grisolle, Dickson, etc.; so that it may be justly said of this work, what can be said of few others, that it is a true exponent of the existing condition of knowledge on the important departments of which it treats.

ART. XIX.—*Principles of Physics and Meteorology.* By J. MULLER, Prof. of Physics at the University of Freyburg. First Am. Edition. Philadelphia. Lea & Blanchard. 1848. 8vo. pp. 635.

THE subjects of which this volume treats, are numerous and important; and such as particularly claim the attention and study of medical men. We here have presented in a masterly manner, all the most important facts and theories relating to *Statics, Hydrostatics, Dynamics, Hydrodynamics, Pneumatics, the Laws of the Motions of Waves in general, Sound, the Theory of Musical Notes, the Voice and Hearing,*

Geometrical and Physical Optics, Magnetism, Electricity and Galvanism, Heat, and Meteorology, etc. It is a work especially needed, and we would fain hope that every medical student would make himself master of its contents, ere he presented himself as a candidate for the honors of the Doctorate. We hope it may speedily find a place in the library of every medical man, and enter into the curriculum of prescribed medical study.

Art. XX.—*A Defence of Phrenology, containing*—I. *An Essay on the Nature and Value of Phrenological Evidence*; II. *A Vindication of Phrenology against the attacks of Dr. J. Aug. Smith*; III. *A view of facts relied on by phrenologists as proof that the cerebellum is the Seat of the reproductive instinct.* By A. Boardman. New-York. 1847. 12mo. pp. 222.

We can at present barely call the attention of our readers to the above work. It is an able and eloquent defence of phrenological science, against the attacks of its adversaries, especially those of Prof. J. Aug. Smith, as contained in his "Select Discourses." It is written in a calm and philosophical spirit, characterized by great candor and fairness, and displays an acquaintance with the subject, in all its details, rarely, indeed, surpassed. As we intend shortly to notice the work more particularly, in connexion with the whole subject of phrenology, we can only at present record our favorable opinion of its high merits, and recommend it to the attention of our readers.

Art XXI.—*Treatise on Fractures in the vicinity of Joints, and of certain forms of accidental and congenital Dislocations.* By Robert W. Smith, M. D., &c. Dublin, 1847. 8vo., pp. 314.

This is a highly-valuable Treatise on Fractures which occur in the vicinity of joints, especially those whose differential diagnosis is attended with difficulty, and certain forms of dislocation. It is a department of surgery in which much has been done by the Coopers and others; Breschet, Dupuytren, Bouvier, and Guerin, have also done much towards elucidating the subject of congenital luxations; but this is the first treatise particularly devoted to the consideration of such accidents.

As to the manner in which the work is executed, we can speak in the highest terms; every form of fracture, etc., is illustrated by a great variety of cases, as well as by beautifully-executed plates, done on copper, in the best style of the art.

The subjects treated of are:

1. Diagnosis and Pathology of Fractures of the neck of the femur.
2. Of Chronic Arthritis of the Hip-joint.
3. Of Fractures of the bones of the Forearm, in the vicinity of the wrist-joint.
4. On Fractures of the Humerus in the vicinity of the shoulder-joint.

5. On Fractures of the acromial extremity of the Clavicle.
6. Of Dislocations of the bones of the Foot.
7. Of Congenital Luxations of the wrist-joint.
8. On Congenital Dislocations of the Shoulder.
9. On Dislocations of the Lower Jaw.
10. Additional Observations on Fractures of the Radius, Dislocations of the Bones of the Foot, and Congenital Luxation of the wrist-joint.

ART. XXII.—*Ninth Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum, for the year* 1847. Columbus, 1847. 8vo., pp. 72.

A RECENT personal examination of this institution, whose Report we briefly design to notice, enables us to speak in the most favorable terms of its general management, and of the inestimable benefits it is annually conferring upon an afflicted portion of our fellow-beings. The building, which is about a mile from the business portion of the city, will compare well with the best of the kind in this country, or, perhaps, in Europe. It presents a noble front of 376 feet, with wings extending back from the extremities of the central buildings, each 218 feet in length, and 40 in width. All these structures are of marble, and three stories high above the basement. The opening in the rear of the front buildings, between the northern extremities of the east and west wings, is filled by lodges two stories high. The large enclosed square thus formed, is equally divided by the building containing the chapel, which is connected with the main building by a latticed gallery, which renders it easy of access, and furnishes a pleasant place of resort for the patients, when the state of the weather allows them to visit it. This causes a large court on either side of the chapel building, which is to be ornamented with shrubs and trees.

The Ohio State Asylum went into operation in 1838, and the present is the Ninth Annual Report. The land first purchased consisted of thirty acres, and cost $1,980. Since then thirty-four acres more have been added, making sixty-four in all, at an aggregate cost of $6,905. The cost of the entire buildings has been $153,821; $48,671 having been the labor of convicts. The whole number of patients received into the Institution has been 1,047—557 males and 490 females; 311 pay patients, and 736 were supported by the State; 528 were chronic cases, or of more than one year's standing, and 519 were recent. Of the whole number, 603 have been discharged, and 115 have died. The whole number cured is 448—250 males and 198 females. The per centage of cures of those discharged, in recent cases, is 90·20; of chronic cases, 28·3, or 62·40 per cent. annually of the whole number received. The average number in the Institution during the year ending in Nov., 1847, was 318. During that period, 181—90 males, 91 females, were received: 99 recent cases, and 82 chronic; whole number cured during the year was 90. During same period 120 were discharged, and 23 died—78 recent, and 65 chronic cases. The per centage of cures of recent cases was 88·46 per cent., of old cases 33·85—average 63 per cent. Entire expenses of the year, $28,070. The Institution is capable of accommodating 340 patients.

We are very happy to find the Directors recommending the abolition of the *distinction of pay and pauper patients*, and we trust our own State Asylum will follow the example. These institutions are reared by the property of the State, and its entire property is taxed for their support. There is no wisdom in the policy which compels the sufferer from insanity to pay a further tax equal to his support for admission. If he be the head of a family, his calamity is usually followed by straitened pecuniary circumstances, and the charge of supporting him in the asylum adds to their distress and embarrassments. How often do we see the means of patients exhausted in effecting their cure, and when they leave the asylum, compelled to suffer the ills of destitution! and when discharged as incurable, they are often thrown upon the world to suffer the double ills of destitution and the loss of reason. It is a distinction which inflicts pain unnecessarily in many sensitive minds, especially where the sufferer has known better days; and we have repeatedly known instances where families in reduced circumstances have refused to send an insane member to such an institution, because they were unwilling to have him received and classed as a *pauper* patient. This distinction of *caste* is hostile to the spirit of our free institutions—painful to the friends of those who are sent as paupers, and to those patients themselves when recovered. It is a distinction done away with in our common schools,—let it be abolished in all our institutions which are built up and sustained at the public charge. Let the loss of reason of the humblest citizen be regarded as it is, as a public calamity, and let the whole community be taught to regard it as a sacred duty to supply, at the common expense, all possible curative means while a hope of alleviation remains. We doubt not that the measure would be sustained by public opinion in every State in the Union.—Which shall have the honor and the glory of first adopting the measure?

To Dr. Awl, the able superintendent, we would express our kind obligations for the civilities shown us in examining the Institution, and all the details of its internal economy and management. To him the State of Ohio is under lasting obligations for his important aid in planting the germ of the institution, for nourishing and cherishing it until it has expanded to its present noble amplitude, and for his unremitting assiduity in carrying out, day by day, the benevolent objects of its establishment.

ART. XXIII.—*The New-Jersey Medical Reporter, and Transactions of the New-Jersey Medical Society.* Edited by JOSEPH PARISH, M. D. October, 1847. Burlington. 8vo., pp. 84.

So far as we are informed, this is the first medical periodical ever issued within the State of New-Jersey. It purports to be a medium for the publication of the transactions of the New-Jersey Medical Society, while it will be devoted to the interests of medical science generally. It is to be issued annually, at the low price of $2 a year. Judging from the highly-valuable contents of the present No., we cannot doubt that the publication will receive, as it highly merits, the general support of the profession in our sister State.

ART. XXIV.—*Illustrations of Medical Botany, consisting of Colored Figures of the Plants affording the important articles of the Materia Medica, and descriptive Letter-Press.* By JOSEPH CARSON, M. D., Professor of Materia Medica in the Philadelphia College of Pharmacy, etc. The Drawings on stone, by J. H. Colen. Philadelphia, 1847. R. P. Smith, 144 Chestnut-street. No. 2.

THE present No. of this useful and beautiful publication, consists of twenty finely-executed colored plates, with the accompanying descriptive letter-press, by Dr. Carson. We can only repeat what we have already said, in our notice of the first number, that the work well deserves the patronage of the profession, and should be in the library of every physician who wishes to keep pace with the science of Medical Botany. Three numbers more will complete the work.

PART THIRD.

American Intelligence and Editorial.

ETHERIZATION AND CHLOROFORM.—We have been not inattentive observers of the progress of etherization since it was first introduced to the notice of the profession by the late lamented Dr. Wells, besides having done our part in experimenting, in order to arrive at some safe and satisfactory conclusions. The result has been, that our early opinions, as expressed in some back Nos. of our Journal, have been somewhat modified, though they have not been essentially changed; and we now regard *anæsthetic* agents as likely, at least for some time to come, to do as much harm as good in the practice of medicine and surgery. Not but what a valuable discovery has been made,—a discovery which will always be regarded as one of the most important of the present age, and one from which, eventually, important results will follow. But such has been the enthusiasm excited by the discovery, especially on the other side of the Atlantic, that surgeons, physicians and accoucheurs have vied with one another in seeing how far the process of etherization could be carried, and in what number and variety of cases it might be employed; operations have been sought apparently for the sole purpose of testing the reality of the wonder-working agent; all sorts of medical, as well as surgical cases, have been brought under its influence; farriery has experienced its benefits; and even the bee-hive has been robbed of its sweets while the industrious occupants have been wrapped in temporary forgetfulness. Truly this is an anæsthetic age! The age of gold, and of iron, and of bronze, has passed, and that of etherization and chloroform is dawning!—what will it be at its meridian?

But in all seriousness we ask, where is this mania to end? Has reason entirely fled the profession, and are we really the unreflecting, unreasoning herd that we are likely to be considered? For what is an anæsthetic agent? Why, nothing less than one which can produce temporary paralysis. And how is this paralysis, this loss of sensibility and of intellect produced? Chiefly, undoubtedly, by producing a state of asphyxia,—a condition of the blood unfitted for the support, for any length of time, of animal or organic life. Something, doubtless, is due to the specific impression made upon the brain—the cerebral lobes, and the medulla oblongata;—but most of the phenomena result from the chemical changes wrought in the blood itself. This is especially the case with alcohol, sulphuric ether, and chloroform. It has always been known that there was total insensibility during deep intoxication from alcohol, in which condition the arterial blood assumes the color of

the venous, from the oxygen received into the lungs converting a portion of the alcohol into water and carbonic acid, by combining with the hydrogen and carbon of the spirit, and intoxication does not pass off until the blood has again resumed its normal condition.* These effects have often resulted from inhaling the vapor of alcohol in spirit vaults. The same asphyxiating condition of the vital fluid is brought about by the inhalation of *ether*.† It has been abundantly shown, by recent experiments, that arterial blood always becomes dark under the effects of ether—that this change precedes the insensibility, and that the arterial color of the blood is restored previous to the sensibility. It is so when animals inhale nitrogen. Insensibility is always preceded by a dark color of the arterial blood, and a return to its natural color precedes the return to sensibility. But it does not therefore follow that asphyxia, thus brought about, is necessarily attended with serious danger, or that it would not be justifiable, under certain circumstances, to induce it. The question to decide is, what are these circumstances? Sulphuric ether is a poisonous agent, and has proved fatal, when inhaled, in many cases. Two cases of apoplexy thus brought on are reported in the fifth vol. of the British Journal of Science. Similar cases are detailed by Orfila, in his Toxicology. Christison and Taylor, in their works on poisons, give fatal cases from the same cause. These were published many years ago, and are known to the profession. Let us look at the phenomena of etherization a little more in detail.—The effects begin to be manifested soon after the ether enters the lungs. At first the brain is stimulated, the respiratory movements are increased in frequency, the pulse is correspondingly hurried, but soon they both begin to flag,—the respiration becomes slow, deep, and loud; lethargy is creeping on apace—the skin assumes a pale or livid hue, and is cold to the feel—the lips become purple—the pupil dilates—sensibility fails, and the whole body becomes flabby and relaxed. Three or four drachms of ether introduced into the blood through the lungs, will produce these effects, in most cases, in from three to four minutes; but if fresh air be substituted as soon as unconsciousness begins, they as rapidly disappear. The sudden subsidence of the symptoms is, of course, owing to the rapid escape of the vapor from the lungs. When the vapor is inhaled for a longer time, say ten to fifteen minutes, more profound coma ensues; the pulse sinks and becomes imperceptible, the patient is roused with great difficulty, if at all; there is temporary paralysis induced—sensibility is suspended. In some cases, although there is a general relaxation of the limbs, there is still a power of moving them, and the intellect and senses are almost unaffected, while general sensation is lost. The involuntary muscles, and the organs supplied by the ganglionic nerves, retain, to a considerable degree, their normal functions, especially the uterus, whose contractile efforts go on almost unimpeded during etherization.

The effects, however, of ether-inhalation, vary according to idiosyncrasy, temperament, and other conditions. In some, considerable bronchial irritation results; some are so excited, as to require considerable effort to restrain them; in some, nausea and vomiting are prominent symptoms, which occasionally continue for several hours. The conjunctiva is generally injected with blood, and the pupils dilated or contracted, occasionally fixed: The

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* The composition of alcohol is *oxygen* 1 eq., *carb.* 2, *hyd.* 3.

† The composition of ether is *oxygen* 1, *carb.* 4, *hyd.* 5.

eye-lids are closed, and if the patient is unable to open them when requested, it is considered a good test as to the proper time of commencing an operation. The most remarkable phenomena connected with etherization, are doubtless those relating to the sensitive and intellectual functions. In some instances, the sense of feeling is suspended, while the intellect remains intact; the brain takes cognisance of external objects, while it either does not notice the impressions made on the sensitive nerves, or they do not produce on it the usual effects. This is readily explained by the doctrine now generally recognised by physiologists, that the seat of sensation—tactile sensibility—is seated in the great cephalic ganglia (tubercula quadragemina,) while the intellectual functions reside in the cerebral lobes. If these lobes were, as once supposed, the common centre of all impressions, as well as of the intellectual operations, it would be difficult to understand how common feeling or the sense of touch could be suspended, while that of sight and hearing continue. But if the sense of touch reside in the tubercula quadragemina, there is no difficulty in supposing it may be suspended, without the suspension of the function of the cerebral lobes. The same remark will apply to the sense of sight and hearing. But it is not so easy to explain why etherization should, in some instances, affect the seat of common feeling,—the special ganglia,—without affecting the cerebral lobes, and vice versa. Flourens and some other French physiologists have attempted, by experiments on animals, to show the order in which different portions of the nervous system are influenced by ether: but so far as we have observed, the symptoms are not so regular as to enable us to determine with precision, which portion is first affected; at any rate, we have observed no regular order in the phenomena manifested. The intellectual phenomena, if any are witnessed, may be sad or gay; violence and combativeness may be manifested; passion, hysteria, &c., according to the sex, constitution, or susceptibility of the patient.

In experimenting with ether on dogs, we find they lose the faculty of sensation in eight minutes; and if they continue to respire it, perish in about 40 minutes; and on dissection, the vessels of the pia mater, medulla oblongata, and sinuses of the brain, are filled with dark-colored blood, also both sides of the heart; while the liver and kidneys are equally congested, and the blood throughout the body is black and fluid. We find the cause of death, then, partly in the venous state of the blood, and its accumulation in this condition in the brain, and partly in the specific effect produced by the application of a poisonous agent to the cerebro-spinal centres. To prevent these fatal results, it is found necessary in the human subject to allow of the admission of a considerable amount of pure air; but, as Mr. Taylor has truly remarked, unless there is a complete restoration of sensibility and consciousness, the poison must go on accumulating in the system; and if the individual be allowed to recover thus completely, it may be regarded as a commencement of its poisonous action, de novo; if not thus allowed to recover, he is in danger of sinking under its effects. Would not the continual exhibition of morphia or strychnia, as the same writer asks, at intervals so short as not to allow of a recovery from each successive dose, cause an accumulation in the system, and lead to fatal results? Is it safe, are we justified in administering it *gradatim*, from time to time, to parturient females, perhaps during several successive hours; thus loading the blood more and more with carbon, to save those pangs which the wise Creator has, for some inscrutable

purpose, connected with the process of child-bearing? Surely, the fact that thousands have recovered from inhaling it for a short period only, is not sufficient to decide this question. Because a man might survive fifteen minutes in the Black Hole of Calcutta, we are not therefore to infer that it would be safe for him to remain there over night. Let it be remembered, that while ether is circulating in the blood, its carbon and hydrogen are constantly using up the oxygen of the vital fluid and converting it into carbonic acid and water. We believe it will be found, as maintained by the discoverer of etherization, the late Dr. Wells, that the nitrous oxide gas, which contains no carbon nor hydrogen, but one atom of nitrogen and one of oxygen, will be found far safer than ether or chloroform, and will be preferred therefore by practitioners in cases where an anæsthetic agent is to be employed.

Let the advocates of indiscriminate etherization say what they may, there cannot be a shadow of doubt that numerous valuable lives have already fallen victims to its use. A few months since, the foreign journals abounded with such cases. Mr. Taylor, in his recent work on poisons, relates several unequivocal cases of this kind: one in which the vapor of ether was respired at intervals, for only ten minutes; and another during a period of thirty-five minutes, in which, he states, the vapor produced a perfect state of paralysis of the brain and nervous system, and where, on dissection, the appearances already described were presented. In some cases, where surgical operations have been performed, there have been alternate manifestations of excitement and depression of the sensorial powers, at one time resembling delirium, at another syncope, and again passing into violent intoxication, until the patients have sunk under the effects; symptoms, not to be confounded with those which attend collapse from an operation. The conclusion at which Mr. Taylor arrives, (*loc. cit.*) is fully sustained by facts, that the inhalation of ether must be regarded as temporary poisoning, with, *ceteris paribus*, a better chance of recovery than exists in most other instances of aerial poisoning.

We have referred to the fact, that arterial blood becomes changed to venous under the influence of ether inhalation. It should be recollected also, that it becomes more fluid, as in asphyxia from other causes. The relative proportion of serum is manifestly increased.

Thus much as to the toxicological bearings of the question. We are fully aware, that in the minds of many of our readers, the question as to the propriety of etherization in surgical and obstetrical practice is already settled, and that they regard it as an invaluable boon to the practitioner as well as the patient. So unquestionably it is, if judiciously employed in proper cases, and under proper circumstances; but to suppose that so powerful a toxicological agent is not likely to produce dangerous results, unless used with the utmost circumspection, is contravening all that is known relative to other poisons of equal potency.* During the early period of etherization, when inhalers with the valved tube were employed, accidents were undoubtedly far more frequent than they have been since the introduction of the sponge; but still we hear of them occasionally, and they will always be likely to occur from idiosyncrasy, or peculiarity of constitution, even when

* We are happy to observe some very judicious remarks on the dangers of ether inhalation in surgery, sustained by several well-marked cases, in the Am. edition of Chelius's Surgery, vol. iii., p. 767.

etherization is cautiously practised. In surgery, we would say, that etherization may be expedient, where the danger from the shock of an operation is greater than from inhaling the poison, as in amputation, lithotomy, extirpations, and operations for anchylosis and necrosis of the larger bones; it might be proper also to resort to it in cases of dislocation of the arm or thigh, where relaxation is desirable; in painful operations on the rectum, and possibly in a few other cases; but immunity of pain merely, should never be purchased at the risk of life, nor even where it would interfere with the proper performance of an operation. It is, doubtless, often important that a patient should retain a voluntary control over his movements, not only for assisting the operator by executing those he may desire, but by abstaining from those which would interfere with the object in view. In careful dissections, as those for hernia and removing tumors from important parts, as about the jaw and neck, nose and mouth, etherization would be inexpedient; and so also in all cases of great weakness or exhaustion, and where there is any disease of the lungs, or heart, or an apoplectic tendency. In the minor operations of surgery, and in dentistry, ether inhalation is the height of folly. The medical uses of ether do not come within the scope of our present design.

With respect to the employment of ether in obstetrical practice, we doubt whether its general use, as recommended by some, is either desirable or expedient. We respect the motives of those of our professional brethren who are aiming to remove the primeval curse from the daughters of Eve, but it is not yet proved that we can, with safety, reverse the decree of Nature which connects suffering with the process of parturition. It is, doubtless, our duty to relieve pain and suffering where we safely can, as well as remove disease; but we are first to inquire whether, in so doing, we may not sacrifice a greater to a lesser good. Dr. Warren has very justly observed, that "there is no parity between the abolition of pain in surgical operations, and the abolition of the pains of labor, the former being only a part of that general law for preservation against injury, in consequence of which, whenever a foreign body threatens to impair the integrity of an organ, pain is produced, and the organ is instinctively withdrawn from the contact." While, therefore, there is nothing contrary to the laws of nature in the removal of pain from surgical operations, that which regulates the pains of labor is a general law, which cannot be changed by the power of science; its final cause being sufficiently plain to show its utility and necessity.* Dr. Warren thinks that the use of so powerful an application through the whole period of a natural labor would, in proportion to the term of that labor, increase the dangerous tendency to organic excitation; and, when this period is very protracted, it might bring on distressing derangements of the stomach, brain, spinal marrow, or uterus, besides in many cases suspending the uterine contractions. We agree with this distinguished surgeon in the opinion, that the cases in which ether can be properly resorted to in midwifery, should be considered as exceptions, such as, 1st. In a natural labor, when the pains are uncommonly severe, especially the terminating pains in a first parturition. 2d. During limited periods of labors prolonged by a preternatural cause. 3d. When, from the peculiarity of constitution, the patient cannot, without

* "Etherization, with Surgical Remarks." By J. C. Warren, M. D. 1848. pp. 100.

danger, support the usual amount of suffering. 4th. For the purpose of obtaining relaxation in irregular contractions of the uterus, as the hour-glass contraction after delivery.

The above remarks in relation to ether inhalation, will apply also to the use of chloroform. It is a far more powerful, and, therefore, deleterious agent, when improperly used, than ether, and the fatal cases arising from its employment have thus far been proportionally far more numerous. Composed of carbon and hydrogen, like ether, it contains, in addition, 3 eq. of chlorine, which render it still more sedative in its influence on the heart and circulation; and we feel no hesitation in predicting that it is not destined to occupy so prominent a position among anæsthetic agents as some have supposed. We have taken it, however, several times ourselves, and administered it in a few instances to others; and Professor Simpson, of Edinburgh, informs us, that he has given it in upward of fifty cases without any danger or unpleasant symptoms. Professor Walter Channing, of Boston, has also been very successful in its use. Still the fatal cases attending its employment, some of which are published in our present No., have been so numerous, as hardly to justify its extensive application to midwifery or surgical practice. We would say of this as of etherization, that notwithstanding what has been done, the profession at large would not be justified in generally employing them, in ordinary labor especially, until we have a more careful collection of cautious and accurate observations, and more precise information as to its effects, both on the uterus and the assistant abdominal muscles; its influence on the child, circumstances contra-indicating its use, and other matters connected with its operation. The propriety of resorting to either of these agents is a problem yet to be solved; we shall leave the solution to others, who have better opportunities or more zeal than ourselves.

As to the origin of etherization, we are happy to learn that the French Institute has recently awarded to the late Dr. Wells a premium of 25,000 francs for the discovery. Although he is now beyond the reach of praise or censure, we rejoice that justice will at least be done his memory, and that professional opinion is so unanimously awarding him the sole credit of introducing and establishing the existence of anæsthetic agents. We regret, however, to find our Boston friends still harping on the claims of Doctors JACKSON and MORTON, apparently entirely insensible to the fact, that in their mutual criminations and recriminations the latter have long ago met the fate of the celebrated Kilkenny cats. The profession are fully satisfied that Dr. Jackson has proved that Dr. Morton was not the discoverer, and that Dr. Morton has equally proved that Dr. Jackson is not the man. We would like exceedingly well to oblige our Boston friends in this matter, if we could conscientiously; but we cannot; let them remain satisfied with what they can justly claim, and not suppose that every new thing under the sun is a "Boston notion." Let us hear what Dr. Warren says on this subject:—"In this country, Dr. Horace Wells, of Connecticut, made many trials of this gas in 1844. In the autumn of that year he came to Boston, and in company with Dr. Morton visited me at the Medical College, for the purpose of requesting that the Medical class should have an opportunity of hearing some remarks on THE USE OF THE NITROUS OXIDE FOR THE PREVENTION OF PAIN. These remarks were actually made, and at a subsequent day a trial of the gas took place. But as I was very much occupied at the time, these occurrences made so little impression on my mind, that

when, in the latter part of 1846, we were assailed in reference to Dr. Morton's first experiments, for a too great facility in adopting novelties, and the facts above mentioned were brought to corroborate the charge, I was for some time not able to understand the grounds of the attack. Dr. Wells, however, in the summer of 1847, mentioned to me circumstances which recalled to my mind his visit; and his statement was afterwards confirmed by that of Dr. Morton. Such are the facts within my knowledge of Dr. Wells' efforts to discover a mode of preventing or alleviating pain in surgical operations. It appears that he actually did prosecute his trials in Connecticut, and elsewhere, to such an extent that, when the matter was investigated by the legislature of the State in the winter of 1847, his labors were thought worthy of honorable notice. Dr. Marcy, of New-York, appears to have had communications with Dr. Wells on the inhalation of ether and of nitrous oxide; the result of which was, that he advised Dr. Wells to suspend the use of ether, and continue his trials with nitrous oxide. Whether these gentlemen had a knowledge of the proposal of Sir Humphrey Davy, we are not able to say."*

And yet Dr. W. claims for Boston the honor of the discovery. Now, let it be observed, that Dr. Wells has proved, that as early as 1844, he had performed more than 20 successful operations, while his patients were in an insensible state, under the influence of nitrous oxide and ETHER; that he communicated the discovery of this condition, and made known these facts to Drs. Morton, Warren, &c., in the fall of 1844, and actually delivered a lecture "*on the use of the nitrous oxide for the prevention of pain*, before Dr. Warren and his class at that time. In 1846, Drs. Morton and Jackson, the latter being the same gentleman who claims to have invented Morse's Magnetic Telegraph, obtained a patent from the United States for the discovery of the fact, about which Dr. Wells lectured before the physicians of Boston, in the fall of 1844, viz., the discovery of an agent "for the prevention of pain;" for the former state in their specification, (*Bost. Med. and Sur. Jour.*) that this is what they claim as their discovery! We cannot refrain from expressing our conviction that Dr. Wells has been very unfairly treated, and that the time has come for awarding him the justice he so richly merited. Is it unfair to suggest, or even unreasonable to conclude, that the tragical event which ended the labors of Dr. Wells, was induced, in a measure, by a consciousness of his own deserts, joined to an apparent unconsciousness of them by his professional brethren? It is, indeed, a saddening reflection, that, had his discoveries, to which others, who enjoyed his confidence, unjustly lay claim, been duly awarded him, and duly appreciated while he lived, he now might be among us, a valued and useful member. But so the world wags. Rarely is desert rewarded, or even acknowledged here; too often, as in this case, justice comes too late—and it is only when reward is useless and praise an empty sound, that the name of the *true* benefactor is heard. But from his ashes let the truth arise, and in this mournful instance, we can only say,

"PALMAM QUI MERUIT, FERAT!"

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* On Etherization, p. 86. 1848.

CHLOROFORM.—[*Translated from the Journal of Pharmacy of Paris, for the New-York Journal of Medicine.*]—In order to give France and a French physician due credit for this discovery, we will transmit the minutes of the *Academy of Science* of the 8th of March, 1845, page 342, where M. Flourens expresses himself as follows:

"It may be remembered that Chlorhydric ether gave me the same results as Sulphuric ether, and it induced me to experiment with the new product known under the name of *Chloroform*. The animals submitted to its influence were perfectly etherized in the space of a few minutes, (six in the first case, and four in the two subsequent ones.)

"The spinal cord was then laid bare, and the posterior branches were found to be perfectly insensible; and of five anterior branches, only two had retained the motory power, the others had lost it."

Thus M Flourens first made use of the Chloroform in experiments on animals; but to Mr. Simpson, of Edinburgh, is due the honor of being the first to make satisfactory experiments on *man*.

When the use of the vapors of ether were first introduced, the strong tenacious and unpleasant smell of sulphuric ether, the irritation of the bronchi, which it often occasioned during the first inhalation, the large quantity sometimes used to produce the desired effect, particularly in cases of protracted labor, etc., etc., induced Mr. Simpson to make an attempt to find a volatile liquid which should possess all the advantages of ether, and at the same time be free from the objections attending its use. In the course of his researches he examined several chemical products which he had selected on account of their pleasant odor; for those of our readers who might wish to pursue the same course, we will enumerate some of them: the chlorhydrate of the chloride of Acetyle, or *Dutch Cordial*, Acetone, Nitrous Ether, Benzin, Iodoform vapor, etc., etc., and lastly, *Chloroform*, which ought richly to repay him for all his labors.

It was through Mr. Waldie's advice that he was induced to study the properties of this last agent. Chloroform was discovered by Mr. Guthrie of this State, and by Soubeiran of France, in 1831, and described by Liebig in 1832. M. Dumas ascertained its composition in 1835, and some physicians prescribed it in small doses to be used internally, particularly as an antispasmodic in asthma.

Before publishing his discovery to the world, Mr. Simpson carefully observed the effects of this new agent in a number of different cases; such as the extraction of teeth, opening of abscesses, galvano acupuncture of encysted ovarian dropsy, parturition, and important surgical operations. He even gave it successfully in neuralgia, to allay the pain in dysmenorrhea. M. Dumas was fortunately in Edinburgh when Chloroform was first given in public to facilitate surgical operations, and he was exceedingly interested in observing the marvellous effects of an agent whose chemical history was so intimately connected with his own name.

The operations were performed at the Royal Infirmary of Edinburgh, and the following were among the number:

A child four or five years old, afflicted with necrosis of the radius, was the first submitted to the influence of the Chloroform. He could speak nothing but the Gaelic dialect, and when the handkerchief, wet with the liquid, was put near his mouth, he became very much alarmed, and even attempted to run away; but he had no sooner taken a few inspirations of the vapor, than he immediately stopped crying and kicking and fell fast asleep.

Prof. Miller then made his incision and extirpated the diseased radius by means of the forceps; during the operation and the probing of the wound, the child gave no signs whatsoever of pain, and was still sound asleep when carried to his bed. Half an hour after, he awoke as from a refreshing slumber, his eye was bright and lively, and his countenance calm and pleasant—a fact very rarely seen after the use of ether.

The next patient was a soldier, suffering from exfoliation of the inferior maxillary bone. The Chloroform was applied, and he was soon thrown into a state of insensibility. Prof. Miller then made a long incision across the

lower jaw, and dissected up the integuments, which were very much indurated and firmly attached to the bone. The edges of the wound were brought into coaptation by means of several sutures. This man had previously undergone two similar operations, which had proved unsuccessful, on account of the manner in which he had borne them. On this occasion he did not give a single cry nor make a single complaint; he had slept most profoundly, and on awaking asserted that he had not felt anything at all; as he was coming to himself, he seized the sponge and carried it to his mouth, evidently showing that the process of inhalation had been far from being disagreeable. This case was particularly interesting, inasmuch as the ether, with its complicated mode of administration, could not have been employed, where it was necessary to make such an extensive wound of the cheek.

The third patient was a young man afflicted with necrosis of the bones of the big-toe and extensive ulceration of the integuments. It was so sensitive that he would scream and writhe on the least pressure. He was put under the effects of Chloroform, operated on, and awoke perfectly unconscious of what had transpired.

The whole quantity of Chloroform used for these three cases, was in all between three and four drachms, and Prof. Miller observed to the students, that it would have taken several ounces of ether to produce the same effects.

Mr. Simpson, after observing fifty cases where the Chloroform was used, came to the following conclusions:

1st. That a much less quantity of Chloroform than of ether will be required to produce the same effect; from 100 to 120 drops, and sometimes much less, being all that is necessary to effect insensibility.

2d. That its action is more immediate, more perfect, and more durable, from ten to twenty long inspirations being enough. The surgeon's time is not wasted, and the period of excitement, incident to all narcotics, is shortened, and the patient does not feel so much inclined to laugh and talk.

3d. That the quantity required is so small, that it is less expensive and more portable.

4th. That it is much more agreeable than ether. Its smell does not impregnate one's clothing, and it does not give rise to any eructations.

5th. That no complicated apparatus is necessary for its administration; a handkerchief, a sponge, or even a piece of paper, will answer the purpose perfectly well.

The purity of Chloroform may be tested as follows:

Take sulphuric acid at 66°.

Distilled water, equal parts, and mix.

This mixture, when cool, will show 40° by the "Areometer," (hydrometer.) One drop of *pure* Chloroform put in this liquid will sink to the bottom. This is a very cheap and easy test.—J. M.

The Medical Profession in the State of Ohio.—A recent residence of a few weeks in the capital of this flourishing State, has impressed us very favorably in relation to the present condition of the Medical Profession in Ohio, and satisfied us that it is making rapid strides in the march of improvement. Some forms of quackery have prevailed to a wide extent in many parts of the State, especially Thomsonianism, and Botanic Medicine, so called; but they are rapidly giving way as science and intelligence spread among the people, and the profession become better educated, and in a few years will be known only in name. Homœopathy has never gained a firm foothold in the State, and Hydropathy has fared no better. Its Medical Schools are all in a very flourishing condition, and a single individual, Mr. Lyne Starling, of Columbus, has recently made a donation of $30,000, to found a new Medical College in that city. The moral influence of such an act of generosity will, perhaps, accomplish as much good as the bequest itself. During the past Session, 240 students attended the school at Cleave-

land, 140 at Columbus, and 170 at Cincinnati, making a total of nearly 600, a majority of whom belong to the State of Ohio, now the third in population and wealth, and soon to be the second in the Union.

Associations are forming among the medical men in different parts of the State, for the purpose of mutual improvement; a State Medical Society is organized, which meets at Columbus at stated periods, besides an annual convention of the Physicians of the State, which is also holden at the same place, and whose interesting proceedings are published yearly, and widely distributed. A difference of opinion, it is true, exists, in relation to the expediency of having a medical law for restraining quackery; though a large majority of the profession are opposed to any legislation on the subject. Numerous petitions, asking for such a law, were sent in to the Legislature, during its recent session, but the prayer of the petitioners was rejected, and that upon the unanimous recommendation of the committee to whom the matter was referred, who were all medical men.

Since the above was written, we have received the following abstract of the proceedings of the State Society at its late meeting, from the Secretary:

"At a meeting of the 'Ohio State Medical Society,' held in the city of Columbus, on the 11th and 12th inst.:

"Several gentlemen were admitted to membership.

"Drs. H. D. Childs of Massachusetts, and Charles A. Lee of New York, were elected honorary members.

"The principal business which occupied the attention of the Society, was in relation to legalizing the practice of medicine in this State.

"Letters were read communicating the views and wishes of individuals, and medical societies in other parts of the State, together with a draft of a law from Drs. Borstler and Krieder.

"After a very general expression of opinion, the Society declared it, in its opinion, 'inexpedient that any law of a general nature should be prayed for at present.'

"Drs. Landon, Carter, and J. B. Thompson, were, however, appointed a committee to meet and confer with the Senate and House Committees on Medical Colleges, &c., respecting the chartering of the State Medical Society, &c. &c.

"The report on the constitution and by-laws was recommitted to the same committee.

"Dr. R. Thompson was appointed to address the Society at its annual meeting in May next.

"Some other business having been transacted, the Society adjourned.

"F. Carter, Secretary.

"Columbus, January 21, 1848."

Professor Childs, on returning thanks for the honor conferred on him by the Society, delivered a very able extempore address; and among other observations, remarked in substance as follows: "Our country, above all others, is the theatre in which the fairest opportunity is presented for progress and improvement, with the surest prospect of success and reward. A world of mind is engaged in active effort, urged on by a freedom of thought and of action, which the old world feels not, shows not, and dares not allow. Our institutions are our own; and all feel they have an interest in sustaining, and elevating them still higher. Where all have equal rights, and there are no privileged orders, what a mine of intellect is opened to enrich and fer-

tilize the land. Population, wealth, intelligence—these are not confined within the narrow limits of our large cities. Neither are the advantages of education enjoyed by the few, to the exclusion of the many. Schools, the higher seminaries of learning, and the Medical College, go with and follow the rapid spread of our population over the wide land. Ill-adapted as are European institutions to this free country, there are those who, without discrimination, would be content to follow on, in servile imitation, wherever an aristocracy of power and wealth exist; where the few lord it over the many, and the sons of the rich are the only educated men in the profession, the multitude are doomed to ignorance and poverty, deprived of the means of education, and the means of relief from suffering and from sickness. May the day be far distant, when all our physicians must be educated in our large cities! While the city medical institutions have many important advantages over the country medical schools, much might also be said of the advantages which the country, so-called, possesses, for the pursuit of medical learning. In the city or the country, the successful prosecution of medical science depends on the student himself; instructed and aided by competent teachers, he should be; but without effort on his part, the teachings of the ablest professors will avail but little. The peculiar character of medical science, though not less a science for its peculiarity, differs essentially from what are called the *certain sciences*. It may be said to require a knowledge of many sciences, and it is, in some sense, based on several distinct sciences. The pre-requisite qualifications for the attainment of medical science, is a minute knowledge of some, and a general knowledge of many branches of science. In truth, medicine embraces all other science. It is a science which makes all others tributary to its advancement. It is not sufficient that the physician understand well, anatomy, physiology, and chemistry; he may excel in any, and all the other sciences, and never make a good practitioner; while without them he can never have any just claim to the reputation of a scientific physician. We often meet with men of extensive reading, and such as deserve to be called learned men, who are yet destitute of professional talent. They lack the ability of advantageously using their knowledge; they are deficient in comprehensiveness of views, and incapable of grasping, at once, all the points of a case, and giving to each its due consideration, in forming a right judgment. This view of the subject was taken by Broussais, when, speaking of Louis' numerical system, he says, 'I opine, it requires something more than A plus B calculations, to constitute the scientific physician.' No system of medicine which does not include all known truth, and which does not admit all *new* discoveries, harmonizing all existing discordances, can be considered worthy of much credit. Again, no system of exclusiveness, limiting our resources, repudiating remedies of established reputation, can be right. All such systems can possess only a brief popularity in a free and intelligent community. The well-educated medical man need have no fear of the airy nothing of homœopathy, the steam of Thompson, or the hydropathy of Preisnitz. We can say of them all, 'what there is in them that is *true*, is not *new*, and what they call *new*, is not *true*.' The wide domain of medical science includes all that is valuable, in all, and every exclusive system. The skilful physician will avail himself of all improvements; appropriate all that is useful; and by his careful observation, daily add to the stock of his professional acquirements. His capabilities are increased by every case he thoroughly investigates; a single case, a *monograph*, well studied, is often of

more value than the superficial observation of hospital practice, however much the advantages are extolled.

The distinguishing characteristics of our highly-favored country, are its civil, religious, and educational institutions; all based on the equality of rights, belonging to each individual, and fixing the sovereignty in the whole people; thus making public sentiment, variously expressed, the governing power of the nation. To this umpire all questions must be submitted, and by this authority, all decisions must be made. The professional man, not less than the politician, must yield implicit obedience to its mandates. We all have a deep interest in enlightening the public mind on the subject of medical science, for by it our professional standing will be mainly determined. Public sentiment has already pronounced against legislative interference in prescribing the qualifications for admission to practice, or assuming any responsibility, by government patronage. The profession are now thrown upon their own responsibility, and their own resources; and, all things considered, this is probably the wisest policy, and will prove advantageous to all concerned.

Thus situated, two important considerations are suggested, of deep interest, and of great practical importance. 1st, the best means of promoting a right public sentiment, as regards the profession; and 2d, the best means of improving and elevating the science of medicine.

The first object will be best acccomplished by the general diffusion of knowledge, and the prevalence of correct moral principle. The means and the facilities of educating the rising generation are abundant, and may be used with an energy and success which the world never before enjoyed. The light of the sun of science shines with a sevenfold splendor. The 19th century opened with new and important discoveries, and has not ceased to astonish mankind with the wonders of science and art. Improvement, progress, reform, are the watch-words of the times; the right spirit prevails; and who can set bounds to its influence? It pervades all the departments of life, and no human foresight can anticipate its conquests. Largely does the profession of medicine participate in its triumphs. Higher and more honorable will be its character, as the necessary consequence. The mean and grovelling spirit which has so long pandered to vice and ignorance, degrading the profession, will soon find no place in our land. Our intelligent community will demand intelligent physicians; education will dissolve the clouds of ignorance and prejudice which have hung over the minds of the community, and the people will scout the mysteries and the pretensions of the impudent quack. A good and sufficient reason will be required for the exercise of faith and confidence in the skill of any one who bears the honorable title of Doctor.

Besides the deep interest physicians have in the spread of knowledge, and a well-informed community, the profession has still higher claims on its members to devote their best energies to its improvement. This is, emphatically, the highest duty of all who are engaged in the study or practice of medicine; and it is more especially imperative in the American physician, who, unaided by authoritative action, assumes the guardianship of the profession.

The country is waking up to this high responsibility, and all begin to see and feel that success mainly depends on the right use of the advantages now enjoyed, and a great increase of those advantages, that higher attainments in

medical science may be made, progress and improvement encouraged, so that the profession may be elevated to the highest degree of which it is susceptible; thus giving to it all the importance to which it is entitled, and gaining for it an influence which the circumstances of the times so imperiously demand. Association, union, and concert of action, enter largely into the schemes of the friends of medical improvement. Much of valuable information in the profession has been lost to the world, for the want of free and frequent intercommunication between medical men; for the want of this, discord and variance have prevailed where all should be harmony and peace. An interchange of sentiment in the profession of medicine, more than in any other, has a direct tendency to enlighten, to harmonize, and perpetuate the right feeling, and the right action. Associations for mutual improvement should begin in the school, and be continued during the active duties of professional life. However much we value a good medical library, it is no substitute for the benefits of oral discussions, and the *viva voce* communications of what we hear and of what we know. Medical associations may be formed of small or large numbers; they should be both. They should embrace all of the *regular* practitioners, and they should be so managed as to make it for the interest of all to unite and become members. In state and national associations the principle of representation should be adopted, by delegates, constituting the association. The principle of association, thus carried out, gives to neighboring physicians an intimate acquaintance with each other, and those more widely separated, a general knowledge of the members of the profession, and to all a fellow-feeling of interest in all, which cannot but promote harmony, diffuse light, and contribute largely to the welfare and prosperity of the faculty.

"*The American Medical Association*" is well calculated to advance the great interests of the profession; concentrating, as it does, the wisdom of distinguished medical men, convened from every part of our highly-favored country, it will exert a benign influence over all. And notwithstanding the acts of the association will be principally recommendatory, with no legal authority to enforce them, yet, speaking the sentiments of a strong and powerful body of men, their voice will be listened to with the highest respect. From this 'National Association' will emanate general plans for elevating the profession, enlightening public sentiment, and promoting harmony of intercourse and friendly feeling among those who should be brethren. The organization of this society was loudly called for by the circumstances of the times, and of the country; and for its support, every intelligent physician should enlist."

Professor Childs extended his remarks to a much greater length, giving a detailed account of the organization of the Massachusetts State Medical Society, and the attempts now making to introduce some salutary changes in its organization and management, and closed by again expressing his obligations for the honor conferred. Dr. Thompson, President of the society, responded in a happy manner, expressing his concurrence in the sentiments of Professor C., and congratulated the society on its prosperity.

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Recent Promotions, Resignations, Deaths, etc., in the Medical Corps of the United States Army.—*Promotions.* William P. Dean, of Louisiana, to be Surgeon, August 21, 1847, vice Ravanel, declined. Robert McNeal, of Ohio, (Assistant Surgeon,) to be Surgeon, September 3, 1847 vice Stone, discharged. James S. Athon, of Indiana, to be Surgeon, Sep-

tember 8, 1847.—(Re-appointed.) John N. Esselman, of Tennessee, to be Surgeon, September 8, 1847, vice McKnight, discharged. Nathan Gaither, of Kentucky, to be Surgeon, September 8, 1847, vice Holland, discharged. Joseph G. Roberts, of Kentucky, to be Surgeon, September 8, 1847, vice Caldwell, discharged. James P. Evans, of Tennessee, to be Surgeon, September 28, 1847, vice Washington, discharged. John Irwin, of Tennessee, to be Surgeon, September 28, 1847, vice Esselman, declined. Samuel B. Fields, of Kentucky, to be Surgeon, October 8, 1847, vice Gaither, declined. Minor B. Halstead, of New York, (Assistant Surgeon,) to be Surgeon, October 20, 1847, vice Hasbrouck, resigned. J. G. M. Ramsey, of Tennessee, to be Surgeon, October 30, 1847, vice Mahon, discharged. Adrian R. Terry, of Michigan, to be Surgeon, October 30, 1847, vice Hensley, discharged. John Parshall, of Tennessee, to be Assistant Surgeon, November 1, 1847, vice Hale, resigned; and to be Surgeon, November 16, 1847, vice Ramsey, declined. Alexander M. Cassidy, of Pennsylvania, to be Assistant Surgeon, August 9, 1847, vice C. J. Clark, appointed Surgeon. William Treadwell, of Florida, to be Assistant Surgeon, August 25, 1847, vice Glenn, resigned. Oliver M. Langdon, of Ohio, to be Assistant Surgeon, September 3, 1847, vice McNeil, appointed Surgeon. William Fosdick, of Indiana, to be Assistant Surgeon, September 8, 1847.—(Re-appointed.) Alexander M. Blanton, of Kentucky, to be Assistant Surgeon, September 8, 1847.—(Re-appointed.) James F. Bozeman, of Georgia, to be Assistant Surgeon, September 8, 1847, vice Ashe, discharged. James D. Caulfield, of Mississippi, to be Assistant Surgeon, September 8, 1847, vice Heighway, discharged. Hugh R. Rutledge, of South Carolina, to be Assistant Surgeon, September 10, 1847, vice Dunn, resigned. George T. McDonald, of Ohio, to be Assistant Surgeon, September 13, 1847, vice Mulvaney discharged. John R. Steele, of Kentucky, to be Assistant Surgeon, September 13, 1847, vice Mathews, discharged. Joseph Malin, of Missouri, to be Assistant Surgeon, September 17, 1847, vice Sanderson, resigned. Philip G. Jones, of Indiana, to be Assistant Surgeon, September 22, 1847, vice Fosdick, discharged. Richard W. Gardner, of Tennessee, to be Assistant Surgeon, September 28, 1847, vice Dorris, resigned. William Cromwell, of Kentucky, to be Assistant Surgeon, September 28, 1847, vice Blanton, declined. William A. Russell, of Tennessee, to be Assistant Surgeon, October 19, 1847, vice Stout, resigned. John G. McKibben, of New-York, to be Assistant Surgeon, October 20, 1847, vice Halstead, appointed Surgeon. Henry Lemcke, of Michigan, to be Assistant Surgeon, October 30, 1847, vice Leech, discharged. Washington L. Lyon, of Tennessee, to be Assistant Surgeon, November 16, 1847, vice Parshall, declined. Eliathah S. Gale, of ——, to be Assistant Surgeon, December 2, 1847, vice Treadwell, deceased. Assistant Surgeon William Hammond, to be Surgeon, August 7, 1847, vice Hawkins, deceased.

Resignations—Volunteer Service. Surgeon E. K. Chamberlin, Oct. 25, 1847. Surgeon J. L. Hasbrouck, October 19, 1847. Assistant Surgeon John G. Dunn, August 19, 1847. Assistant Surgeon George B. Sanderson, August 31, 1847. Surgeon Edmond Ravanel. *Regular Service.*—Assistant Surgeon Robert S. Holmes, October 4, 1847. Assistant Surgeon James D. Stuart, 16th Infantry, November 6, 1847.

Declined.—Surgeon John N. Esselman. Surgeon Nathaniel Gaither. Surgeon William P. Dean. Surgeon Samuel B. Fields. Surgeon J. G. M. Ramsey. Assistant Surgeon Craven Peyton. Assistant Surgeon Alexander M. Blanton. John Parshall, of Tennessee, as Assistant Surgeon.

Deaths.—Hamilton S. Hawkins, at Tampico, August 7, 1847. * Assistant Surgeon William Roberts, Mexico, October 13, 1847. Assistant Surgeon Robert C. Wickham, at Vera Cruz, May 13, 1847. Assistant Surgeon Robert H. McGinnis, 14th Infantry, Vera Cruz, September 1, 1847. Assistant Surgeon William Treadwell, at Vera Cruz, October 24, 1847.

Discharged.—Assistant Surgeon William Fosdick, September 22, 1847.

* From wounds received in battle of Molino del Rey.

Brooklyn City Hospital.—We have received the report of the Board of Trustees of this proposed Institution, which was submitted at a public meeting held on the 1st Feb. 1848.

An act for incorporating the Brooklyn City Hospital, passed the Legislature of this State on the 8th May, 1845; since which time, measures have been in progress for carrying the benevolent design into operation. A building site, favorably located near the contemplated park at Fort Greene, had been obtained, and collections are now being made for the erection of the necessary buildings. We regret to learn, however, that the active exertions of a few benevolent spirits are not more worthily seconded by the inhabitants of our sister city. It seems that some $2,000 have been expended in the purchase of 14 lots of ground, $3,392 in the house and furniture, now temporarily used for hospital purposes; and $5,500, the donation of a single individual, include all the resources thus far invested for this great and benevolent object.

We are told in the report, that "a similar apathy has characterized the various annual meetings of the Association for the Relief of the Poor," that the "City Library slumbers in its quietude almost unknown;" that the City Observatory is now passing through its second struggle; while the Orphan Asylum and Institute owe their life and influence mainly to the labors and benefactions of a few." Brooklyn has been called the "City of Churches;" the report mildly hints that "faith, without works, is dead." "Contrasted with other places," it adds, "Brooklyn has not done that for herself which should most exalt her. Rejecting the vices of the parent city in many a form, she has still to imitate her many virtues. Young in years, and full of vigor, she will yet put on her crowning ornaments. As the spirit of selfishness is rebuked, her City Hospital and kindred Institutions will grow up, enlisting the sympathies and aid of those who have retired from the busy walks of life, and seek that exercise of their generous emotions which otherwise is denied them. In the furtherance of this, and similar charities, will be realized the truth of the Scripture—'it is more blessed to give than to receive.'"

The *Attending Physicians* of the Institution are, H. J. Cullen, M. D., P. Cook, M. D., Lucius Hyde, M. D., R. McClellan, M. D., C. L. Mitchill, M. D.

Attending Surgeons.—T. L. Mason, M. D., F. W. Hurd, M. D., W. G. Hunt, M. D., Daniel Ayres, M. D.

Resident Physician.—William Swift, M. D.

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The Mississippi State Medical Society.—The Society held its Annual Meeting at Jackson, on the 11th of January.

Dr. S. A. Cartwright was unanimously re-elected president. Drs. Keirn, Copes, and J. W. Philips, were elected to represent the Society, at the next meeting of the American Medical Association, to be holden in Baltimore, on the first Tuesday of May next. Other important business was transacted, and measures adopted, which show that the Society is entirely engaged in promoting the interests of Medical Science, and helping forward the great work of medical reform.

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Three cases of double vagina.—In the Medical Examiner for Dec., Prof. Meigs has reported three cases of double vagina, complicating pregnancy. They were all cases of primapara. The first a remarkably well-formed and comely woman, æt. 20 years. Upon making an examination, Dr. M. found the os uteri dilated to the size of a half dollar, which in the course of an hour became fully dilated; when, upon repeating the examination, he found that the head rested upon a bridle, extending from the anterior to the posterior columna of the vagina, which would not admit the dilatation of the lower or outer third of the vagina. The first idea suggested by this condition of things was, that a rupture of the cervix had taken place; but upon further examination of the external organs there were found two dis-

tinct vaginas each perfect and alike, included within labia pudendi common to both.—The head, in its descent, could not be made to take either the right or left passage. Dr. M., fearing rupture of the vagina, (the pains being so strong,) with a strong pair of scissors divided the wall by a single stroke of the instrument—the head advanced—dilated the os magnum, and the child was speedily delivered.—No unpleasant symptom followed.

In the second case—patient æt. 30 years—upon making the first examination, the os uteri was found dilated to the size of a quarter of a dollar, with thin margins, and within it the penis and scrotum of the child were felt presenting. After waiting an hour, the os uteri was much dilated, and the buttock and right foot of the child presented. Upon close examination, the same condition of parts as in the first case was found. The same idea suggested itself to Dr. M., viz., that a rupture of the cervix had taken place. The wall was very firm and thick, extending from the os magnum almost up to the os tincæ—the same structure of the external parts existed as in the first case, but then there was the fear that both feet would descend, one entering the right, and the other the left vagina. This, however, did not take place. Dr. M. disengaged the right foot and brought it down the right channel; the left was flexed upon the belly and thorax of the fœtus. With a little caution the leg and trunk were delivered. Much difficulty was encountered in the delivery of the head; it remained long in the vagina, the infant breathing from time to time the air that (Dr. M.) admitted through the hollow of his hand and fingers to its mouth and nostrils.—The child was born alive—the mother speedily recovered. Dr. M. makes mention of being called, some years ago, to a similar case, which occurred in the practice of the late Dr. Ruan. This too was in a primaparia—the child was finally delivered by the forceps through the right vagina. No unpleasant symptom followed delivery.—(Ed. *ad inter.*)

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A Case of supposed Superfœtation. By Henry Willsher, M. R. C. S. London, and Member of the Medical Society of Kings County, L. I.

Mrs. L., residing at Brooklyn, L. I. desired my attendance at her accouchement. Symptoms of labor commenced January 18th, about three o'clock, p. m., progressed satisfactorily, and terminated at nine—expulsion of the child (a boy, well proportioned, weighing five pounds and a half, and continues a healthy child) had taken place previous to my arrival; and, whilst applying ligatures on the funis, the secundines were expelled. After separating the child, I took the secundines in my hand, for removal, and feeling something unusual, on examination found it to be a fœtus seven inches long and of the male sex. On inquiry of the patient if she had noticed anything particular during this gestation differing from her former two, she said, that about ten weeks since she felt morning sickness, similar to that she used to feel for the first three months; that this morning sickness continued for several days, and then ceased; and that her usual state of health was not dissimilar to what she usually experienced.

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University of the City of New York.—The Annual Commencement of the Medical Department of the New York University, was held at the University Chapel, on the evening of the 8th of March inst. The degree of M. D. was conferred by the Chancellor of the University, Hon. Theo. Frelinghuysen, Esq. on the following gentlemen:

D. C. Ayres, Indiana; J. A. Agnew, Virginia; B. B. Ayerigg, New Jersey; W. D. Aylett, Alabama; B. J. Baldwin, Georgia; E. W. H. Beck, Iowa; E. P. Bailey, New York; J. H. H. Burge, Rhode Island; H. Burgess, Connecticut; W. W. Blackman, New York; J. B. Black, Pennsylvania; R. T. Bryan, Kentucky; D. R. Bardin, New York; C. L. Barnes, Georgia; H. N. Bushnell, New York; A. Bethune, North Carolina; H. W. Brown, Georgia; W. Bullions, New York; J. Bishop, New York; A. T. Bull, New York; W. A. Bernard, North Carolina; G. G. Bird, Georgia; James Buchanan, Ohio; M. B. Cargile, Georgia; Silas S. Clark, New York;

L. W. Curtis, New York; H. Chappell, South Carolina; A. S. Clark, New Jersey; S. W. Clark, Connecticut; J. W. Crawford, Pennsylvania; R. L. Crawford, South Carolina; C. N. Campbell, New York; J. H. Cox, Alabama; W. F. Demming, New York; J. Dickson, Pennsylvania; W. H. Dial, Texas; T. J. Dozier, South Carolina; H. Dillard, Virginia; E. Edmundson, Tennessee; J. T. Edwards, New York; D. C. Edmonston, New York; G. F. Foote, New York; E. Flint, Rhode Island; Thomas Frye, Arkansas; W. W. Flewellen, Georgia; D. Farrar, Canada; E. Ford, New York; T. T. Fitzhugh, Virginia; T. W. Frame, New York; C. R. Gallagher, Delaware; J. M. Gastion, Indiana; J. L. Grisham, Georgia; R. A. Greer, North Carolina; L. L. Graves, Georgia; D. Hasbrouck, New York; H. B. C. Harris, Virginia; W. A. Hammond, Pennsylvania; — Hutchings, Virginia; W. W. Harper, Louisiana; S. M. Higgins, N. York; J. F. Huntley, New York; G. L. Hutchinson, Alabama; M. Hinman, New York; J. F. Hawkins, Georgia; J. B. Herron, Pennsylvania; C. E. Hammond Connecticut; — Holbrook, Massachusetts; J. A. Hudnall, Virginia; Charles Henry, South Carolina; J. J. Hammill, Pennsylvania; L. L. Holmes, North Carolina; A. Hallet, New Brunswick; J. C. Hightower, Georgia; W. G. Hatch, Wisconsin; J. J. C. Hall, North Carolina; P. T. Henry, North Carolina; G. S. Little, New York; S. Lasseter, South Carolina; W. J. Lytle, New Jersey; C. G. McKnight, Rhode Island; E. A. Martin, South Carolina; G. D. Moore, North Carolina; C. W. McMichel, Georgia; J. W. McCabe, Pennsylvania; R. G. W. Maffett, Georgia; R. Mathison, New York; M. H. Moragni, South Carolina; W. P. Massey, New York; A. D. Moore, North Carolina; F. A. Milner, Georgia; G. T. Maxwell, Florida; H. McNeil, North Carolina; M. Mattson, Massachusetts; D. A. Neilson, Tennessee; J. H. Olmstead, Pennsylvania; J. G. Ogden, New York; M. N. B. Outlaw, Georgia; C. Perkins, Tennessee; E. H. Pentz, Pennsylvania; G. W. Peer, Michigan; B. C. Rowan, Indiana; I. D. Ray, Kentucky; D. Reed, Pennsylvania; M. Ransom, Tennessee; D. J. Ransom, do; J. C. Roberts, Alabama; F. A. Stanford, Georgia; S. Schoonmaker, New York; H. K. Steele, Ohio; H. W. Smith, do; W. H. Schenck, New Jersey; J. C. Sill, New York; Joseph Sill, do; T. B. Small, New Jersey; J. R. Slaughter, Alabama; F. Snell, New York; P. Ten Eyck, New Jersey; J. Trussdell, New York; J. C. Tappan, do; C. J. Taylor, Tennessee; T. S. Tuggle, Georgia; W. Wallen, Florida; A. Wetmore, New York; A. W. Williams, Georgia; T. C. White, Tennessee; R. S. Wright, New York; P. A. White, Georgia—127 in all.

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College of Physicians and Surgeons of the University of the State of New York.—The Annual Commencement of this Institution was held on the evening of 9th March, inst., at the College Hall, No. 67 Crosby street. The degree of M. D. was conferred by the President, Dr. A. H. Stevens, upon the following young gentlemen:

Henry Dawes Appleton, Maryland; John Babcock Arden, A. M., New York city; John Hiram Bacon, Jefferson county, New York; Richard Aaron Barnes, Dutchess county, New York; Samuel Cyrus Breitenbach, Pennsylvania; Charles Wesley Brink, New York city; John Roberts Burton, Georgia; Josiah Cadmus, New Jersey; William Wert Cahoon, A. B., Vermont; Matthew Joseph Callaghan, A. B., New York city; Richard G. Cobb, North Carolina; Austin Barton Conkling, Long Island, N. Y.; John Richard Conway, New York city; Whitfield Stephen Coursen, New Jersey; Greenlief Dearborn Dagget, Maine; Nathaniel Reynolds Davis, New York city; Charles Bolivar Dayton, Long Island, N. Y.; William Blahie Eager, Jr., Orange county, N. Y.; John Fellows Ely, Michigan; Leonard Carpenter Green, Dutchess county, N. Y.; Joseph Sherwood Gregory, A. B., New York city; George Osgood Gunn, New York city; Hampton Harriott, A. M., New York city; Alfred Hasbrouck, A. M., Ulster county, N. Y.; Charles Rollin Head, Wisconsin; Lucien Hensley, Kentucky; Richard Seldener Jacobson, New York city; William Louis Jones,

A. B., Georgia; William Kelly, A. M., New York city; Daniel Embury Kissam, Long Island, N. Y.; John Preston Leonard, Rhode Island; Stephen Kearney Turquand Mackay, Canada East; Ira Manly, Jr., Essex county, N. Y.; James Lewis Manney, North Carolina; Benjamin Reese Masters, Bermuda; Joseph King Merritt, A. M., Westchester county, New York; William Bowne Minturn, A. B., New York city; Stephen Moses Miller, Rhode Island; Israel Parsons, Onondaga county, N. Y.; Adoniram Judson Rand, New York city; Austin Ledyard Sands, Jr., A. M., New York city; John Peter Sharer, Herkimer county, N. Y.; Jonathan Chamberlain Shattuck, A. B., Long Island, N. Y.; Charles William Shumway, Essex county, N. Y.; Truman Hoffman Squire, Herkimer county, N. Y.; Harvey Putnam Tolman, Onondaga county, N. Y.; William Columbus Walker, Georgia; Zephania Swift Webb, Connecticut; Henry Astor Weeks, A. M., New York city; Charles Whipple Whiley, A. B., New York city; John Martin Witherwax, Iowa; Aurin Nelson Woodman, Massachusetts.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

Nerves of Bone.—M. Gros has obtained some interesting particulars regarding the distribution of nerves to the long bones. Taking the femur of the horse as sufficiently typical of the ordinary plan, he finds at least three nerves to approach the nutrient foramen—two of them in company with the branch of the femoral artery, called by M. Gros "diaphysial," and the third, occasionally double, by piercing the vastus internus muscle. All of these are branches of the crural nerve, but there is in man, it seems, a branch of the sciatic in addition. Arrived at the nutrient foramen, the nerves are disposed differently in some subjects, but commonly a ganglion is developed, which receives the nervous branch which came through the muscle at one end, and one of the satellites of the artery at an interval. One portion of the ganglion is somewhat distinct, and is situated within the foramen; it gives two branches which receive the other arterial satellite, (which is distinct from the ganglion,) and then penetrates the medullary canal. The rest of the ganglion lies beneath the periosteal artery, which it is to be noted is a branch of the diaphysial, whose other branch is medullary, and supplies two satellite nerves to it. Variety occurs in the ganglion as to situation, it being near to or more remote from the foramen, and as to form, it being occasionally double. The branches, both medullary and periosteal, follow, and ramify with the arteries, forming a network corresponding to the vascular, and the purpose of the ganglia appears to be to assemble, previous to this distribution, the nerves from several sources.—*Archives Gén. de Médicine.*

The Optic Thalami.—In a series of experiments upon rabbits, made after the publication of his essay "De vi motoria baseos encephali," Dr. Schriff observed the following consequences of injury to the optic thalami, etc. 1st. The lower parts of the optic thalami, and the whole thickness of the crura cerebri are slightly sensitive. 2d. If one thalamus or one crus cerebri be destroyed, a rotation around the transverse axis of the body takes place. This movement is not due to a hemiplegia of the opposite side, for it takes place even when the action of one of the extremities of the injured side is prevented. 3d. The injury of any part of the hemisphere above the thalamus produces no such rolling movement. 4th. The change from the rotatory movement to the rolling movement is observed only when, in consequence of the operation, the lateral part of the pons is compressed. 5th. The rotatory movement depends on a deviation of the two forefeet towards the side opposite to the direction of the rotation, combined with a movement of the neck *towards* the direction of rotation. 6th. These deviations occur only in movements effected through the brain, they are never spasmodic. 7th. The anterior three-fourths of each thalamus unite in themselves the elements for the flexion of the body to the opposite side. When the portion of the thalamus included within this anterior portion is destroyed, the rotatory movement toward the injured side ensues in the way described above. 8th. But if the

posterior fourth of a thalamus, or if a crus cerebri be destroyed, the deviation of the feet and of the neck will have the opposite direction, and the movement will be towards the side opposite the injured thalamus, in just the same manner as when the anterior part of the other thalamus is injured. 9th. There appears, therefore, to be a decussation of the fibres in relation with these movements, between the thalamus and the crus cerebri, which decussation probably takes place in a part lying above and behind the corpora albicantia, and reckoned as belonging to the substantia perforata media. 10th. The destruction of no azygos part of the brain above or before this portion of the middle line produces any paralysis of the extremities; but the median division of the floor of the fourth ventricle produces excitement of motion. 11th. If, in dividing the crus cerebri, the pons be injured, a partial paralysis of the hind foot, on the side opposite the injury, is added to the other deviations; and the movement takes the form of a rotation around the paralyzed foot, the whole body moving as the radius. 12th. Immediately after the destruction of an optic thalamus, or a crus cerebri, a few rotations are made *towards* the injured side—the effect, probably, of the irritation—they soon give place to the ruling movement. 13th. The part, irritation of which makes rabbits snarl and dogs howl, is anterior to the thalamus, in the neighborhood of the anterior crura of the fornix. 14th. The rotation takes place in animals blinded by the removal of the humors of the eyes.—*Schmidt, Jahrb. Heft.*, 7, 1847.

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SURGERY.

Fractures of the Radius.—We now come to fractures of the lower extremity of the radius. This subject is still new, and has scarcely been noticed till within the last thirty years. Boyer makes no allusion to it. Till 1812 or 1815, these fractures had been confounded with dislocations of the radio-carpal articulation; and notwithstanding the clearness of the memoirs since written on the subject, many practitioners continue to do so. This arises from the peculiar deformity of the wrist, which resembles a dislocation, and which I have endeavored to describe by a letter which represents it sufficiently clearly. The fracture of the radius causes the wrist to assume the form of the letter Z. The part may also be compared to a silver fork; the dorsal surface of the wrist and hand, instead of being on the same plane with the posterior surface of the forearm, is more prominent, while the palmar surface of the forearm presents an opposite appearance; instead of a concavity, its lower part presents a marked convexity, closely resembling the back of a fork, of which (to carry out the simile) the fingers represent the prongs. The absence of this deformity does not make it certain that there is no fracture, but when present it is altogether characteristic; if there is any difficulty in making it out on examining the injured limb alone, comparison with the sound one will at once remove it; and this is the more important because other symptoms of fracture, such as crepitus and undue mobility of the bone, are either very obscure or altogether wanting. Another symptom, which is also of value, is the raising of the tendons of the external radial muscles: these in their normal state lie close to the bone; but when that is displaced, and, as we may say, increased in size by the anterior projection, there is an increased stretch and tension of these muscles, and particularly of their tendons. If there is anything else remarkable about fractures of the extremity of the radius, it is the little inconvenience they produce; they unite readily when left to themselves, and the patients often complain more of the apparatus than of the fracture. This is explained by the head of the bone being surrounded by numerous tendons, which act as so many splints. The only deformity that remains after consolidation, is a projection at the lower part of the arm, which is trifling in amount, and only perceptible to the eye of a surgeon. The movements of the joint are in no degree impaired. There is, however, an exception to this, if the fracture is deeply impacted or much comminuted, and then a very exact and effective apparatus should be applied. Those that act by a strong compression on the injured part produce a harden-

ing and thickening of the tendons and synovial membranes, which may end in partial anchylosis of the wrist and fingers.

The following is the apparatus I employ. I surround the limb with a dry roller; having reduced the displacement, I apply a starch bandage, graduated compresses, and pasteboard splints on the dorsal and palmar surfaces of the forearm and hand. While it is drying, I apply wooden splints. In twenty days, consolidation takes place, and the cure is complete in a month. —*Dublin Medical Press.*

Case of Tumor of the Neck, simulating Aneurism of the Carotid Artery. By James Syme, Esq., Professor of Clinical Surgery in the University of Edinburgh.—About a month ago a young man called upon me to get my opinion of a swelling in his neck. It was seated on the right side, and occupied the upper triangular space. It was of an oval form, quite circumscribed, and obviously consisted of a bag containing fluid. Upon more particular examination, I found a distinct pulsation of the kind which I had been accustomed to regard as characteristic of aneurism, being an expansive impulse, not limited to a portion of the tumor, but felt equally at every accessible point, even from the mouth, and more especially in a lateral direction. The patient stated that the swelling had commenced in the beginning of the present year—that is, about nine months ago—and had progressively enlarged without any cause that had been ascertained. He also stated, that when he worked hard or walked fast, the tumor increased in size, and had a strong beating in it. I felt satisfied that there was an aneurism of the carotid artery, but expressed no opinion at the time, and desired the patient to call again for further examination. When he did so, I varied the process by placing him in different positions—by trying the effect of pressure on the tumor and artery—and by listening to the sounds of the tumor. There was no distinct aneurismal "bruit," but a very strong, loud pulsation, that implied the action of the heart upon an extensive surface. Finding my impression thus confirmed, I informed the patient of my apprehension; but, before giving a decided opinion, requested that he would call once more. He did so a few days afterwards, and I then felt fully warranted to inform him that an operation would be requisite for his relief. Next day he placed himself in my hands for this purpose, and was admitted into the Minto House private hospital. After he had been confined to bed for a few days, I tied the artery below the crossing of the omo-hyoideus, as the tumor prevented this from being done higher up. The textures of the neck were more than usually adherent, and the vessel was not exposed to view with nearly the same facility as upon the former occasions which have required me to perform the operation. I nevertheless succeeded without any tearing, or undue disturbance of the parts, in passing and tying the ligature, so as to relieve me from the slightest apprehension of any bad consequences. The tumor immediately sustained a very distinct diminution of bulk, which was remarked not only by the gentlemen present, but by the patient. He went on most favorably after the operation until the fifth day, when hemorrhage took place from the wound, and notwithstanding every effort to effect prevention, recurred from time to time until the evening of the twelfth day, when it proved fatal.

The parts concerned were examined next day in the presence of Drs. Scott, Duncan, Mackenzie, Peddie, Brown, Gillespie, and Ballingall. We found a tumor extending from the ear to the extremity of the omo-hyoideus, and completely occupying the upper triangular space of the neck. At the lower part it seemed to terminate in the sheath of the vessels, which looked like a prolongation of it downwards, but was found to be merely enveloped by the bag, which I dissected out entire from the coats of the vessels to which it had intimately adhered. The cyst, when opened, was found to possess a tough consistence, and to contain a fluid like thin gruel. At the posterior part, when viewed internally, it displayed a sacculated or honey-comb-looking structure.

I have deemed it right to communicate this case to the society without de-

lay; in the first place, because the names of several gentlemen have been mentioned in connexion with its previous treatment, and it is but due to them that the true state of matters should be made known. And secondly, because I wish to discharge the duty which devolves upon every member of the profession who is so unfortunate as to commit a serious error of practice, by faithfully stating the circumstances which misled me, so that they may be rendered less likely to cause similar mistakes in future.

I have had extensive opportunities of observing tumors of an aneurismal kind, and it was impossible for me to bestow more care in any instance than in the case just related. But it appears that the character which I have hitherto regarded as the most certain indication of aneurism, may be presented by a peculiar state of things of an entirely different kind. I allude to the general expansive pulsation, especially when felt in a lateral direction. This was most distinctly recognised not only by myself, but by several gentlemen well practised in the diagnosis of aneurismal tumors, who, in consequence, agreed with me in believing that an aneurism existed. Having come to this conclusion, and being requested by the patient to do what seemed requisite for his relief, I had no course but to tie the artery. The low situation to which the ligature was restricted, with the consequent proximity of the innominata, and the intimate adhesion of parts, no doubt led to the hemorrhage.

The painful feelings excited by such an occurrence, are on the present occasion somewhat relieved by the reflection that I did not err from any want of care, and that I proceeded on the ground of my most deliberate judgment, in accordance with what I believed to be a well-established principle of surgical diagnosis. I also derive comfort from the persuasion that a fatal issue must, sooner or later, have resulted from the case, whether it had been left to itself, or been subjected to surgical treatment. It is plain, that no sort of external application or internal remedy could have had any beneficial effect on the tumor. The patient had used liniments and blisters, and taken large quantities of cod liver oil, under the impression, I suppose, that the swelling depended upon an abscess; but with no check to the enlargement, which had progressively increased with accelerating rapidity. In such cases I have repeatedly dissected out the cyst, and did so with success upon one occasion in the hospital, where the tumor extended from the mastoid process to the clavicle. But in the present instance, it would have been impossible to effect removal in the living body, since it was only by cutting, without regard to the integrity of the great vessels, that the bag was separated in an entire state from their coats. The only remaining mode of procedure, therefore, was to lay the sac freely open, so as to induce suppuration and granulating contraction of the cavity. The last case of the kind that occurred in my practice was treated in this way, as Dr. Richard Mackenzie, who assisted me, may remember. It is between two and three months since the operation was performed, by removing the anterior or superficial part of the cyst; and the patient is now nearly, if not quite well. But it is well known that when a large artery lies in close proximity to the suppurating surface of a sinus or open cavity, ulcerative absorption of the septum between them is apt to occur, and occasion hemorrhage. I was asked by Dr. Douglass to see a man under his care in the hospital last winter, on the lower part of whose neck, and upper part of the sternum, a large swelling had taken place. In laying my hand upon it, I felt a strong pulsation, which ceased during inspiration; and I therefore concluded that the tumor proceeded not from an aneurism, but an abscess. As there was a blush on the most prominent part of the swelling, and as the patient did not seem to suffer any particular inconvenience from its presence, I advised that the matter should be allowed to find vent spontaneously—since it seemed very probable that, after evacuation was accomplished, ulceration of the arterial coats adjoining to the cavity would ensue. In the course of a few days the matter was discharged by the natural process, and a few days afterwards a gush of blood proved instantly fatal to the patient. Now, I think it extremely probable, or rather almost certain, that if a cyst so intimately connected with the carotid artery had been con-

verted into a suppurating sinus, hemorrhage no less profuse than uncontrollable would have been the consequence. If, again, the disease had been left to pursue its course, there can be little doubt that the swelling must, before long, have seriously interfered not only with the circulation of the head, but also with deglutition and respiration—and that its spontaneous conversion into a sinus would have been attended with no less risk of hemorrhage than if this change had resulted from surgical interference. These considerations, of course, afford no excuse or apology for the mistake that was committed; but, as already remarked, tend to lessen the painful feelings excited by its consequences.—*Monthly Journal.*

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A new and certain method of curing False Joints, or Pseudo-Arthrosis. By Professor DIEFFENBACH.—The most simple method of treating false joints, is by rubbing the ends of the bones strongly together. This deserves the first trial, but is chiefly successful in children and recent cases. The additional use of irritation or blisters to the skin is productive of no benefit. The use of setons drawn through the false joint has been much recommended; it is apt, however, to produce violent inflammation and extensive suppuration, and in the most favorable cases seen by our author, it only strengthened the intervening ligamentous substance, producing in no instance a true firm callus—the improvement always proving temporary. Resection of the ends of the bones has also been performed in various ways by different surgeons. In three cases so treated by our author, the deformity was only rendered worse, and the extremity became more and more like a flail. Many other remedies have been used, as cauterization of the ends of the bones, etc., several of these being more dangerous than their predecessors, and none more certain of cure.

Instructed by the experimental researches of Flourens, Duhamel, Troja, etc., that if a bone be bored through transversely, and a wooden pin introduced, or if this be forced longitudinally into the medullary canal, the bone inflames, swells up, and becomes covered with a copious effusion of new bone, our author was led to apply this practically in the case of pseudo-arthrosis. He first, however, attempted to gain his end by the simpler method of merely boring through the bone without the introduction of pins. This was successful in the first case.

A healthy girl of nine years old, with a false joint in the right leg, accompanied by considerable contraction of the flex. policis long., tibialis posticus, and tendo-Achilles, so that the limb was at the broken part bent at an acute angle; these contractions were first removed by subcutaneous incision, and a few weeks later, the ends of the bone perforated eight times by a small borer. The limb was at the end of three months perfectly firm.

In the second case, that of a girl aged twelve, with a false joint, likewise of the leg, a similar method was pursued, but at the end of six months no callus was produced, and although the limb was at first tolerably firm, it speedily became again bent. The author consequently resolved to repeat the operation, adding the introduction of wooden pins, as the mere boring had not proved sufficiently irritating. He had first, however, an opportunity of employing this method in two other cases, and from its safety, efficacy, and the ease with which it is performed, he is induced to recommend it to the profession.

In performing this operation, the limb must be strongly extended, to bring the ends of the bones in apposition, and there they must be retained. When the false joint is of long standing, and the parts in a manner fixed in a distorted position, a previous treatment is necessary to bring them straight. All rigid and contracted tendons and ligaments must be cut through subcutaneously, and the ends of the bones brought correctly in apposition by careful extension and bandaging. The limb being fixed, and the skin and soft parts made tense at that point where the bones lie nearest the surface, a long narrow, but broad-pointed knife, is then passed down to the bones, about half an inch from the broken ends. Through the opening thus made, a gimlet of the

thickness of a quill is passed down, and the bone carefully and slowly perforated, occasionally withdrawing the instrument lest the bone should be split, which is apt to be the case when the perforation is made so near the end of the bone; yet the irritation would not prove sufficient if placed at a greater distance. Two ivory pins, slightly thinner than the gimlet, are then to be well oiled and forced through the bone till their ends can be distinctly felt on pressing the opposite side. They should be of such a length that an inch should project above the soft parts. These are to be protected by a handful of charpie, and a bandage and splint then applied to retain the limb in position. One hole should be bored and the pin introduced before the other is commenced.

In pseudo-arthrosis of the patella, the gimlet should be only half the thickness above mentioned, the holes ought not to be bored quite through the bone, and the pins must be drawn together by a twisted suture. After the operation, the limb swells and inflames; the bandage should then be removed, and suppuration induced by poultices. About the fifth or sixth day the bones and periosteum begin to swell, and may be felt through the soft parts as round ball-like tumors. Should the violent obtuse pain of inflamed bone occur, the pins must be removed for a few days, the poultices assiduously applied, and then the pins again introduced; it is seldom necessary to retain them longer than fourteen days, but this period may be extended if the bones show little reaction, and if their swelling be but trifling.

So long as the suppuration continues, the pus must be allowed free vent; when this, however, is lessened, the bandage may be allowed to remain for a few days, and the cure finally completed by the application of a light splint and bandage. During the whole time, the proper position of the limb must be carefully preserved.—*Casper's Wochenschrift.*

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Fistula in Ano.—Dr. Van Camp has communicated to the Society of Medicine of Anvers a method of curing fistula in ano without operation, by means of injections of iodine. A workman, aged twenty-four, had had an enormous abscess at the anus, which became fistulous, its inner opening being very high up in the gut. Wishing to avoid operating in the case, a solution of nitrate of silver was tried as an injection, but it failed to do any service, and then recourse was had to an injection of equal parts of tincture of iodine and water, which was thrown into the fistulous cavity twice a day for five days. The first injections were attended with severe pain, and when the inflammation produced by it was considered sufficient, the proceedings were suspended for three days; they were then renewed, as a little fœcal matter was discharged from the wound, but the cavity had diminished to an inch in height, and by the sixteenth day the cure was complete.—*Jour. de Méd.*

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Lithotomy and Lithotrity.—(Abstract of the proceedings of the Academie de Medicine, Paris.)—The discussion of the comparative merits of lithotomy and lithotrity still continues to occupy attention. The long reply of M. Civiale, to the objections of Velpeau, Roux, etc., comprehends three distinct parts. In the first he endeavors to answer Velpeau, Blandin, and Malgaigne; in the second and third parts he treats of two very important questions,—those of the *explorations* and the *relapses*. The influence of the explorations of the bladder upon the economy are said by M. Civiale to be exaggerated, and that they are not worse when made with lithotrity instruments than with the ordinary sound. He denies that the preliminary examination renders the operation of lithotomy, if eventually necessary, at all more dangerous. Of twenty-eight of his patients operated upon under these circumstances, nineteen were cured and nine died; while of seventy-three cases operated upon in the hospitals under other circumstances, twenty-five died. M. Civiale also stated that, in the cases of Souberbielle, of eleven operated upon after the passage of lithotrity instruments, ten were cured.

Respecting the relapses, he endeavors to prove that the reproduction of

stone is more frequent after lithotomy than after lithotrity. To show this, he states that eighty-eight cases of lithotomy exhibited nine relapses, while out of 244 cases of lithotrity fourteen only recurred. He explains the fact by supposing that lithotomists pay less attention to the state of the bladder subsequent to the operation, than those do who perform lithotrity; and that as the secondary stones are generally phosphatic, their formation may be determined by the inflammation of the bladder, etc., thus neglected.

M. Civiale was replied to more particularly by MM. Blandin and Velpeau, both of whom insisted upon the danger which frequently follows the explorations of lithotrity, more especially when, as was often the case, lithotomy was eventually resorted to.

M. Roux, who took part in the debate, was somewhat discursive in his remarks, alluding to the comparative merits of the perineal and the oblique section, the frequency and causes of stone among the children of the poor, etc. He stated it as his conviction, that in children lithotomy should be the rule and lithotrity the exception. In a subsequent part of his discourse, he exhibited the results of his stone operations in private practice. Of these, 54 in number, 6 were in children under ten years, in whom all were successful; 48 were in subjects above that age,—37 cures, 11 deaths. It follows, therefore, that the total mortality was 11 in 54, or 1 in 5. The contra-indications to lithotrity, in his opinion, may be thus laid down:—1. In children under ten without exception. 2. When the stone exceeds a certain volume. 3. When there are several large stones. 4. When the stone is very hard. 5. When there is great irritability of the bladder.

The opinions of M. Roux were in the next place strongly opposed by M. Segalas, who maintained that children, so far from being bad subjects for lithotrity, were in reality the best; he denied also that hardness of the stone was a forcible objection to the operation.

Dr. Guerineau read a case of aneurism of the palmar arch, cured by electropuncture.

M. Christophe introduced a new stethoscopic sign intermediate between bronchophony and ægophony, to which he gave the name *ægony*. The sound is said to be a short tremulous tone, elicited by the voice, and is considered to be indicative of effusion.—*Provincial Med. and Sur. Jour.*

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New mode of restoring the Lips.—(Abstract of the proceedings of the Academie des Sciences, Paris.)—M. Sedillot, of Strasbourg, introduced a new method of *cheiloplasty*, which he had devised to remedy the deformity caused by extensive cancerous ulceration. The object of his operation was chiefly to supply the defect with integument, which from the freedom of its circulation should not be inclined to sphacelate. This he accomplished by dissecting a square portion from each cheek, and uniting them in the centre. The result was very satisfactory.—*Ib.*

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New method of reducing Hernia of the Iris.—This consists simply in cauterizing a spot, at a distance from the hernia, with nitrate of silver; it is based on the following data:—1. Hernia of the iris through the cornea does not become disorganized for some days. 2. The protruded iris, irritated by the contact of the tears or the air, or by the friction of the superior eyelid, or even of the edges of the ulcerated cornea in which it is imprisoned, has a tendency to swell, and the irritation and swelling prevent mortification and *arrest cicatrization*. The progressive engagements of the iris is proved by observation; if a recent hernia be touched with an irritating body, it instantly acquires three times its original size; and if we watch the progress of cicatrization in the ulcer of the cornea, the hernia being unreduced, the pupil is found to diminish by degrees, and even to disappear. 3. Adhesions are established between the iris and the cornea before the iris is disorganized; for a few days these are very weak, and may be destroyed at once *by augmenting the vascular action of the parts which furnish them*, or by a new inflammation developing itself in another part of the eye. 4. The materials of ad-

hesion are in the first instance furnished by the cornea; the cornea is in a morbid state at the point at which the healthy iris protrudes. 5. These materials are derived from the divided vessels of the ulcer, the origin or base of these vessels being at the circumference of the cornea. 6. By irritating the part in which the base of these vessels ramify, the secretion at the edges of the ulceration is augmented; in this way a fluid secretion may be induced around the hernia, which will destroy the imperfect adhesions, and give freedom to the iris in the ulcer, which latter is augmented in size by the secretion. 7. By putting the iris under the influence of belladonna before producing such an irritation mechanically, we obtain a power, placed behind the cornea, acting from before in a direction backwards, and capable of reducing the hernia.

After this beautiful chain of pathological reasoning, Desmarres states:—A portion of the iris having projected through an ulcer of the cornea, and instillations of belladonna having been used for some days without any beneficial result, it may be inferred that the pupil has been rendered as large as possible by this agent, the operator proceeds thus:

The upper eyelid being held by an assistant, and the lower eyelid depressed with the index-finger of the left hand, he applies with the right hand the point of a pencil of nitrate of silver to the conjunctiva of the bulb, close to the cornea, and cauterizes it in three or four points as energetically as possible, without penetrating the mucous membrane too deeply. A very active irritation of the vessels which feed the ulceration of the cornea is thus provoked, and the secretion necessary to set the iris free is the result. Sometimes, instead of points, a line of cauterization is made in the neighborhood of the hernia, and in some instances, where the first cauterization has failed, after an interval of two or three days, a second, third, or fourth even, on the cornea, but taking the greatest care that the caustic does not extend to the iris, otherwise the hernia would at once be increased. In a rare instance success was not obtained until after the eighth application; but the reduction is generally effected after the first, second, or third. Desmarres has succeeded in so many instances by this method, that he has ceased to count the operations.—*Mr. Ancell's Report on Ophthalmic Surgery.*

PRACTICAL MEDICINE.

Typhus Fever.—Now, what, asks Dr. Kennedy, is the cause of the greater mortality from fever, amongst the wealthier classes? It is that the treatment usually adopted is too much on the expectant plan. By this means the disease progresses till the symptoms bid defiance to treatment.

"Fever," continues Dr. K., "as it appears amongst the middle classes, (and I am only now speaking of it,) in general becomes serious by the brain getting engaged. That is, the majority of cases present brain symptoms, and are serious or fatal as the case may happen to be. This I take to be an important distinction between fever amongst the poorer and wealthier classes. Not that the former do not present us with similar forms of the disease, but only that the latter present it much more frequently. When the disease is once fully formed, it usually takes one of two courses. The patient early exhibits signs of stupor, which gradually passes into insensibility, coma, and death. Or else delirium shows itself early; this increases gradually, till the patient becomes raving mad, as the expression is; he never sleeps, and he dies after some days, to all appearance exhausted by the continued violence of the symptoms; though even here coma is very apt to terminate the scene. It is not necessary for my present purpose to advert to the other symptoms attendant on this form of fever. But let the case be traced further. What does post-mortem examination disclose? Do we find nothing in the brain sufficient to account for the symptoms before death? We do; and I believe the appearances are constant, provided the patient dies in either of the ways alluded to. What, then, is the morbid anatomy (not the pathology) of such cases? Venous and frequently arterial congestion; injection of the brain's substance; a considerable amount of

subarachnoid effusion, often of a gelatinous consistence; patches of opacity in this membrane itself; and also the appearances as if the blood had exuded from the vessels; or as if the latter had actually ruptured. Such are the morbid appearances which have come under my notice in these cases; and I have had ample opportunities of confirming them. I have examined the brain of an individual who died of the very worst form of fever on the seventh day, reckoning from the rigor; and I have examined them at all subsequent periods; and still the appearances were very much the same. It is quite true that differences in degree existed; such, for instance, as there being more effusion in one case than another. But is this not to be expected? On the contrary, is it not what we should naturally look for? If we take any other disease that is often fatal, do we find the amount of morbid lesion a constant quantity? Is it so in pneumonia, in pericarditis, in peritonitis? Is it not well known to be constantly varying? And why, then, should we not find the same to obtain in the brain? The lesions described as occurring in this organ, will, I should suppose, be allowed to be sufficient to account for the symptoms present before death.

In making these remarks, I would not have it supposed that I am an advocate for the theory of fever advanced by Clutterbuck; for I believe that the state of brain described is secondary to the cause of the fever itself, whatever it may be. It is in point of fact a complication of the disease; but certainly a very important one.

If, then, it be granted that fever, as it occurs amongst the higher classes and in the majority of cases, usually is serious by the brain becoming affected; if this occur at a particular period of the disease; if experience, above everything else, tells us that when the head affection has set in, our best efforts are but too frequently baffled; and if anatomy shows us a considerable amount of morbid lesion in the organ, what course, I would ask, ought we to pursue? Is it to wait till these fatal symptoms have declared themselves? I would say not. On the contrary, let our treatment anticipate them. Dr. Graves, who has given a large attention to the subject, and written most ably on fever, has long since recommended treatment with the same object in view; that is, to anticipate the head symptoms. For this purpose he advises free leeching, followed by powerful blistering. I would go a step farther, and would not hesitate—wherever the state of the patient allowed of it—to take blood from the arm. Recollecting, however, that the disease has always a certain duration, it will be more prudent to take but a small quantity at one time; and, if necessary, this can be repeated. The quantity may vary from eight to twelve ounces. I am well aware of the arguments which have been, and still are urged by many against this line of practice. It is said that it is one that may jeopardize life. But is there any force in such an argument? Does it not equally apply to the use of purgatives? of antimonials? of opium? of wine? But it will be said that bleeding, being more powerful than any of these, may produce effects which it is not possible to combat. Not so, it may be replied, if only common discretion be used. It is granted that bleeding will lower the patient. Strange it would be if it did not. Is not this the very reason for which it is employed? Is it not our object in every severe case of fever, to lessen the symptoms, so as to make them compatible with the existence of life? Have not leeches, blisters, purgatives, and antimonials, all the same tendency? Yet we hesitate not in using them. The weakness, too, that is induced, is it so very formidable a symptom? Will any one compare it for a moment with the risk which attends on delirium, or still more on coma? On the contrary, I feel confident that every one who has had to treat fever, will agree with me in saying, that no cases of this disease go on more smoothly than those which require to be fed, as it were, all through. That is, those in which weakness has been, from first to last, the most prominent symptom. As to the argument sometimes advanced against the use of bleeding—namely, that it causes a very tedious convalescence, it ought not to sway our judgment for a moment; inasmuch as we have been considering a class of

cases—and those only—in which life is brought into the greatest danger from head symptoms by the tenth day."

[Dr. Kennedy states that he is fully borne out in his views by the late Dr. John Crampton, of Dublin, who often bled his patients on the fifth, sixth, and seventh days of the disease, and even when petechiæ existed. After relating some of the effects of blood-letting, Dr. Kennedy says,]

Such were the more immediate effects of general bleeding, as it came under my notice; and they were wonderfully uniform; fully as much so as any other point in the practice of medicine. But they were not the only results; for when the time arrived for the use of stimulants, these were borne well, and very rarely did it happen that wine had to be countermanded—a fact of considerable importance; as every one must be aware what difficulty, almost uncertainty, attends the administration of this valuable agent amongst the wealthier classes. My conviction is, that if treatment were adopted in the earlier stages of fever—what might be called preparatory treatment—that then wine could be ordered at the proper stage with much greater certainty, and far better results. Other diseases, too, would bear out this remark. If we suppose a case of acute bronchitis or pneumonia, in which the stage that bleeding ought to have been used has been allowed to pass by, we then become aware how much more difficult the treatment of such a case becomes; and how frequently all our usual remedies are proved to be useless. So, as it appears to me, is the case in fever, when not met, as it ought to be, in the early stage.

The last result of bleeding in fever, is, I believe, the tendency it has to prevent some one or other of those secondary congestions, or inflammations, which are so very apt to make their appearance, and render the disease still more serious than it was at first.

What, then, is the substance of the remarks now made? Bearing in mind the class of cases to which they more particularly apply—that is, fever, as it is usually met with amongst the better classes, where head symptoms so commonly supervene about the eighth day: I would say, that the early treatment may be of a more active kind than that usually adopted. That it may, nay, ought, to be of such a kind, as to interfere directly with the disease; that is, by moderating the symptoms. That for this purpose, and with ordinary prudence, general bleeding may be used with perfect safety. That such lessens the intensity of the various symptoms—prepares the patient for the administration of wine, and tends to prevent the accession of those secondary congestions or inflammations, owing to which life is so frequently lost. That in point of fact the treatment should anticipate the coming on of head symptoms, as Graves has long since advised; and that it should partake of the active, often of the antiphlogistic plan, as distinguished from the expectant, with which latter it is possible too many rest content at the present day.—*Dub. Med. Press, Oct.* 20, 1847, p. 241.

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On Cod Liver Oil in Struma, by Dr. Graves.—Dr. G. corroborates the testimony of those (and, amongst the rest, of Dr. Bennett,) who have extolled the use of this medicine in strumous diseases in general. He has seen it do what he never saw any other remedy effect, i. e., reduce to the natural size amygdalæ that were enlarged from the period of extreme youth. A most remarkable instance was that of a young lady, aged about nineteen, whose amygdalæ were as large as small walnuts, and which were treated without effect for two years, both by iodine internally, and nitrate of silver locally. A three months' course of cod liver oil left no trace of the disease behind. Under the influence of this oil, the enlargement of the cervical glands in young persons of a scrofulous habit frequently disappears, and the tendency to the formation of phthisis, and the recurrence of strumous hæmoptysis, is occasionally overcome. In persons of a consumptive tendency, he considers this a valuable addition to our remedies.—*Monthly Journal, June,* 1847, p. 925.

Influence of Atmospheric Electricity on the System.—By M. Pallas.—M. Pallas, chief physician of the army in Africa, asserts that the greater number of diseases, particularly "neuroses," are due to the influence of diffused electricity, the principal sources of which are thunder-clouds and marshy soils. By their geographical constitution, and their effects upon the human organism, marshes (says M. Pallas) present the closest analogy with the galvanic battery. Their deleterious effects are formidable in exact proportion with the quantity of saline or organic matter contained in the waters; and observation proves that diseases developed by the influence of marshy emanations are at first of a nervous nature; hence one of the methods which will be most efficient in preventing intermittent fever and neuroses, must be electrical isolation of chairs, beds, and tables, from the soil, by glass supporters.—*Med. Times.*

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Treatment of Scabies by Olive Oil.—M. Griffi, of Sardinia, has treated scabies with great success by the simple application of olive and other fixed oils. The method consists in covering the affected parts with the oil, slightly heated to favor its absorption, three times a day. The itching completely subsides in three days, the eruption dries up and desquamates, the redness and swelling disappear, and the patient is generally cured in twelve days. The application should be continued a few days to ensure success. The almond, linseed, nut, and other oils, and even simple lard, will produce the same effect.—*Annales de Thérapeutique, and Monthly Jour. of Med. Sci.*

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On the Morbid Anatomy and Pathology of the Typhus Fever which has been prevalent in Edinburgh during the Session 1846—7. By Dr. Hughes Bennett.—Until the commencement of the present session, cases of intestinal lesion in typhus fever have been exceedingly rare. During the three years the author acted as pathologist to the Royal Infirmary previous to the present session, and during which he had examined upwards of 500 individuals who had died of the disease, he had only met with it three times. Since November, however, they had become more frequent, and the author had studied the morbid anatomy of typhus in reference to the opinions put forth by Rokitanski, Engel, Hammernick, Gunsburgh, and other pathologists of the Vienna and Prague schools of medicine. According to these observers, typhus fever is accompanied by a dyscrasia of the blood, and the intestinal and other lesions produced contain a peculiar deposit called typhous deposit, which bears the same relation to the constitution of the blood as tubercle and cancer do to the tubercular and cancerous cachexiæ. The cases of fever admitted into the Royal Infirmary from the 1st of November, 1846, to the 30th of June, 1847, amounted to 2071. Of these 278 died; owing to the imperfect arrangements which exist in the Royal Infirmary, however, regarding post-mortem examinations, only 63 of these cases had been inspected after death. It was upon these data that the following statements were founded:—

The organ most frequently affected was the spleen. In the majority of cases it was more or less enlarged and softened, presenting a mahogany brown color, and creamy consistence; so that, when pressed, nearly the whole of its parenchyma could be squeezed out of its capsule. In ten cases the spleen contained one or more infiltrated masses of typhous deposit of a yellowish or brownish-yellow color. In two cases the deposit softened and burst into the peritoneum, causing fatal peritonitis. The organs most frequently affected after the spleen were the lungs. The most common lesion was bronchitis, the bronchial lining membrane being of a deep mahogany or purple color, more or less infiltrated with serum or exudation. The fine bronchial tubes were frequently filled with a muco-purulent matter more or less fluid; and, in a few cases, choked up with a reddish-brown creamy substance, probably a modified form of the exudation (typhous deposit) of Ramak. The apices of the lungs were very commonly œdematous, yielding on section a copious, greyish, frothy fluid. In fifteen cases the lungs were more or less consolidated by exudation, which seldom presented the characters of

normal hepatization. It was sometimes of a dirty-yellow tint, at others of a brownish chocolate color, existing in masses of irregular outline, and of variable size, resembling the typhous deposit previously spoken of, occasionally found in the spleen. In three cases there was pulmonary apoplexy. The intestines presented the lesion so well described by Bretonneau, Louis, Cruveilhier, and others, (dothinenteritis, typhoid, ulcer, &c. &c.), in nineteen cases. The peculiar elevation, sloughing, and ulceration of the round and oval patches, had been carefully observed, and the anatomical description given by Mr. Goodsir, (Monthly Journal, p. 353, 1842), for the most part confirmed. The elevated patches had been observed occasionally to extend as high as the duodenum, and as low as the rectum. In one case, numerous dothinenteric elevations, about the size and shape of a split pea, extended all over the ascending and transverse colon. In a few cases the isolated follicles in the large intestines were observed swollen and empty, presenting in their centre a dark blue or black spot. In others, the round and oval patches of the small intestine were hypertrophied, elevated above the mucous membrane, and of a greyish or slate color. Perforation of the intestines, causing fatal peritonitis, had occurred in three cases. Dysentery, with flakes of lymph attached to the mucous membrane, over the ascending and transverse colon, was associated with intense dothinenteritis in one case. Oval and round cicatrices, exhibiting different stages of the healing process of the intestinal typhous ulcer, were observed in two cases. In all cases where the intestinal ulcerations were recent, the mesenteric glands were enlarged, soft, and friable, and of a greyish or reddish-purple color. Some of these glands reached the size of a hen's egg. On section, they presented a finely granular surface of a dirty yellow-greyish or dark fawn color, produced by infiltration of the typhous deposit, which was generally soft and friable, but sometimes in one or more parts of the swollen gland broken down with a fluid of creamy consistence. In two cases there were glossitis and laryngitis, with tonsillitis; in one case abscess in the kidney, and in one an abscess in the posterior mediastinum.

The brain did not appear to participate much in the disease. It presented only occasional congestion, with slight effusion into the sub-arachnoid cavity, or into the lateral ventricles.

The blood in the great majority of cases was fluid, and of a dirty brownish color. In those instances, however, where the disease had been protracted, and especially in such as presented well-marked typhous deposit, firm coagula were found in the heart and large vessels.

In seven cases no lesion whatever could be discovered.

The typhous deposit consists of a yellowish or flesh-colored exudation, sometimes passing into a brownish color from the admixture of more or less blood. When first formed it is of a tolerably firm consistence, as in the spleen and glands of the mesentery and intestines, but rapidly undergoes the process of softening. In parenchymatous organs it may be slowly absorbed or resolved, as in the lungs, spleen, and mesenteric glands, or it may produce ulceration or gangrene. In either case, should the individual recover, cicatrices with puckerings in the tissue are produced, the parenchyma around the deposit having contracted and become indurated. On mucous membranes the deposit is thrown off in the form of slough, and discharged by the excretory passages, leaving a characteristic round or oval-shaped ulcer. This process may be followed by cicatrization or perforation of the gut by ulceration. In the former case it leaves a round or oval-shaped depression in the mucous membrane, often of a blue color, which subsequently becomes covered with epithelium: in the latter case it produces death by peritonitis.

The minute structure of the typhous deposit varies in different situations. In the lungs, spleen, and intestinal canal, it contains at an early stage a number of irregularly-shaped corpuscles. They are about the 1-100th of a millimetre in diameter, contain several granules, with a nucleus about the 1-500th of a millimetre in diameter. Acetic acid renders them more transparent. They are conjoined with numerous granules and molecules, which

become more abundant as the process of softening advances. In the mesenteric glands a higher degree of cell formation takes place. Cells are formed about 1-50th of a millimetre in diameter, containing from two to six, and even sometimes more nuclei, which become very distinct with thick edges on the addition of acetic acid, whilst the cell wall is partially dissolved. The same cells may occasionally be seen in the elevated typhous deposits of the intestinal glands. Sometimes the only appearance observable in the deposit is that of numerous molecules and granules mixed with blood corpuscles. Dr. Bennett considered that the pathology of this affection consisted in a primary alteration of the blood, caused by the peculiar miasm or poison causing typhus fever; that, under such circumstances, local inflammations were set up in particular organs, and that the exudation attending it, instead of presenting the usual appearances, and undergoing the usual transformations, became modified so as to constitute the typhous deposits.

Dr. Christian noticed some time ago, (Art. Fever, Lib. of Medicine), that the Edinburgh fever was especially characterized by pulmonary complication. We know that in France and Germany intestinal lesions are most common. During the present session, however, the latter had also become frequent in Edinburgh, and it was a fact worthy of observation, that this change occurred at a time when scurvy and bad diet prevailed, circumstances often known to be associated with this form of fever in France and Germany.—*Report of the Edinburgh Med. Chirurg. Society: Monthly Journal of Med. Sciences, October*, 1847.

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On the Detection of Biliphæin in Albuminous Fluids. By Dr. Heller.—It has long been known that the presence of the coloring principle of bile in any animal fluid may be ascertained by the addition of nitric acid, which induces a rapid succession of changes in the color of the fluid, producing first a green tint, then blue or violet, then red, and lastly yellow. But in order that this play of colors may take place, it is necessary either that the biliphæin should exist in a large quantity, or that, if in small quantity, a particular method should be pursued in applying the test. This method consists, according to Heller, in adding the acid very gradually, and stirring the mixture until the green color appears; then in adding a few drops more of the acid, and stirring again, upon which the blue or violet tint is produced; and by a similar cautious addition of the acid, the other characteristic colors may also be manifested.

In a former essay* Dr. Heller pointed out an easy method of detecting the coloring matter of bile in an albuminous fluid, and showed the advantage afforded by the presence of the albumen in allowing the existence of even the smallest quantity of bile to be ascertained. Since then, however, he has found another method, by which he says the same information may be obtained with greater certainty, and less liability to error. This consists in dropping into a test-tube containing concentrated hydro-chloric acid portions of the albuminous fluid supposed to contain biliphæin, until the albumen appears as if about to coagulate. Nitric acid is then to be gradually added, and on stirring the mixture a distinct green color speedily appears if biliphæin be present; and if this substance exist in tolerable quantity, the green color is shortly succeeded by the other characteristic tints.—*Heller's Archiv*, 1847, Heft. iv.

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Obstruction of Pulmonary Artery from Renal Disease.—Dr. Bright has furnished us with a very marked example of renal disease determining the occurrence of fatal obstruction in the pulmonary artery.

M. R., a middle-aged woman, was admitted to Guy's Hospital, Nov. 8th, 1826, with anasarca. She had been two or three times in the hospital, during the last two years, with renewed attacks of the same disease, and had gone out relieved. She was now in the most hopeless and advanced state of

* Vide Medical Gazette, 1845, vol. 1, page 1089.

disease. The effusion somewhat diminished under treatment; but, on the evening of the 21st, she became rather suddenly worse, complaining of great difficulty in drawing her breath; and, although assistance was immediately obtained, she died in a few minutes.

Sectio cadaveris.—Lungs tolerably healthy in structure; but it was found that the *pulmonary artery* was completely blocked up by a coagulum of fibrin of firm texture. The hand was not particularly large. The vena portæ, and its large branches going into the liver, were likewise obstructed with coagulum, nearly separated from the red particles, and the saphena vein was in the same condition. The liver was tolerably free from morbid change. The kidneys afforded very fine specimens of the confirmed granulated change. The spleen was healthy.

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On a remarkable case of Protracted Hæmoptysis, symptomatic of Primary Disease in the Stomach, succeeded by violent Epilepsy, and the recovery of health. By Henry Burton, M. D., Physician of St. Thomas's Hospital.—The history of the case offers a good example of the co-existence of severe gastric derangement, with constant headache, copious hæmoptysis, occurring at irregular intervals during four years and three-quarters, with rigid spasm of the lower extremities, followed by the restoration of good health, after the supervention of a series of violent epileptic fits, which quickly succeeded the disappearance of the pulmonary hæmorrhage.

The author, after citing the opinion of M. Andral, relating the influence exerted by different organs on the production of congestion in the brain, and also the opinion of Dr. Copland upon the importance of tracing "the origins and relations of sympathetic and symptomatic phenomena, with reference, not merely to diagnosis, but also to prognosis and treatment," proceeds to describe the case of an intelligent female, aged 18 years, of a spare habit, and rather under the usual height, who was admitted into St. Thomas's Hospital on the 5th of September, 1843.

She had then been ill with symptoms referrible to the chest and abdomen for two years and a quarter, and for two years the abdominal symptoms had been complicated with copious hæmoptysis, partial loss of voice, and an almost total want of power over the lower extremities. She had been confined to her bed during the greater part of her illness, and the abdominal pain had never entirely ceased; the hæmoptysis had recurred very frequently; the uterine functions had been always regularly performed; and, with the exception of the pulmonary hæmorrhage, the patient had never experienced any habitual loss of blood. Copious hæmoptysis recurred seven times after admission in forty-one weeks. The patient returned home in June, 1844, in a much better state of health than she had experienced during the three years preceding, although not entirely cured, and was re-admitted a second time in December, 1845, after an interval of a year and a half, with analogous symptoms of gastritis, co-existing with copious hæmoptysis.

After the second admission, copious hæmoptysis recurred three times in thirteen weeks, and slight hæmoptysis daily, until epilepsy supervened, when it ceased entirely.

The author reviews the circumstances which biassed his judgment in the early, as well as final, treatment of the case, and endeavors to show that the hæmoptysis was dependent on a primary disease of the stomach, and not of the lungs; he notices the inefficacy of the ordinary remedies prescribed upon the supposition of the pulmonary origin of the hæmoptysis, and states it recurred until the irritability of the stomach, indicated by pain and frequent vomiting, was obviated by the use of mercurials; the urgency of the gastric symptoms then began to abate immediately, and the hæmoptysis ceased in twenty days after they were first prescribed.

He quotes the authority of Hoffman and Mr. Rumsey in support of the opinion that gastric irritation may excite, through sympathy, copious hæmoptysis, independent of any other signs of phthisis, and that it does invariably lead to a deposition of pulmonary tubercles. He disapproves of the use of

the acetate of lead in the treatment of symptomatic and copious hæmoptysis, and, in conclusion, expresses his opinion, that whenever the stomach is the seat of inflammatory action, associated with copious hæmoptysis, independent of other disease referrible to the thoracic viscera, the safest plan, in reference to the treatment, is to consider the hæmorrhage as a salutary act, by which the relative plethora in the lungs is relieved, and the first indication of cure to be the removal of the gastric disease.

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Dr. Nevins on the beneficial effects of Cold Water in Fever.—At a recent meeting of the Liverpool Medical Society, Dr. Nevins read a paper on the beneficial effects of the use of cold water in fever. He applied it by means of a sheet dipped in cold water, and folded once round the body, and immediately enveloped the patient in four or five blankets, so as carefully to exclude the external air. Profuse perspiration was soon induced, which was allowed to continue for one or two hours, and was then checked by folding the patient for a moment in another cold wet sheet, after which he was rubbed dry and placed in bed. Whilst in the blankets, cold water was allowed to the patient, as a drink, if desired.

The patients operated upon were from 10 to 35 years of age, and were generally within the first three or four days after the accession of the fever, whilst the skin was hot, and the pulse frequent, with some power. In these cases the skin became soft and moist, the heat abated, and the pulse was reduced in frequency, and Dr. Nevins had not observed that any injurious depression resulted from the perspiration, whilst the severe headache frequently present was essentially relieved. Even when there was slight bronchial affection he had used this plan without its being increased, and, on the contrary, it appeared to be mitigated, if previously slight. If severe, he never applied the cold sheet.

He read a letter from Mr. H. S. Taylor, giving the result of this plan of treatment in thirty-five cases of fever, treated in the West Derby Fever Hospital, which corresponded with his own experience, except that the relief obtained when headache had been previously very severe was generally more decided than in the cases related by himself. Mr. Taylor had applied the wet sheet two or three times in succession in some of the cases, when the febrile symptoms returned, and always with the same benefit. In two or three instances the patients had not recovered, but the fatal result was in no way connected with the treatment, having taken place at an interval of some weeks after the application.

Dr. Nevins further adverted to the results of this plan of treatment in some cases of constitutional headache and habitual constipation, which had been satisfactory; and in cases of general anasarca in which he had not observed any benefit derived from it.

Mr. Higginson corroborated Dr. Nevin's statement as to the safety of the treatment, when some degree of bronchial affection was present, provided there was plenty of vigor in the patient. In a young child with a slight febrile attack, and a good deal of bronchial derangement, the chest was relieved, and the febrile state removed.

Sir Arnold Knight feared that, unless caution were exercised, an injurious amount of depression would result from the continuance of the perspiration after the patient was removed from the sheet, and placed in bed; and mentioned a case in support of his opinion. He had learnt from some professional friend, who had likewise tried this plan, that the patients required an earlier administration of food and stimulants than in ordinary cases. In one very severe case of violent delirium during fever, in a young man, the application of the wet sheet had been followed by the most satisfactory results; and, though the patient ultimately died, he was satisfied that life had been prolonged, and the severe symptoms mitigated by the treatment.

Dr. Nevins considered that the application of the second wet sheet, after the perspiration had been allowed to continue sufficiently long, was an important part of the treatment, as it prevented subsequent profuse or depress-

ing sweating, and, being followed by a healthy glow, obviated the objection suggested by Sir Arnold Knight: and in the cases observed by Mr. Taylor and himself there had not been any injurious depression.

MIDWIFERY.

Placenta Prævia.—Mr. Edward Ray read some cases, with observations, of Placenta Prævia.—Feeling that in difficult parturition, no class of cases are attended with greater danger to the life of the mother and the child, and that none perhaps are more awful, or occasion more anxiety even to the practitioner, than those of placenta prævia, I am induced to bring before the notice of this society, the following cases, in which the placenta was either expelled or removed from the uterus, when the patients were exhausted by the loss of blood, and were still bleeding, with the effect of causing the immediate cessation of the hemorrhage; and that after an interval, which allowed of the free use of restoratives, the patients, without any further loss of blood, were delivered of their children by uterine action.

Case I.—Mrs. Duffield, (residing in a lone cottage in the midst of some fields,) aged 27, the mother of one child, and seven months advanced in pregnancy, was, on the 8th of April, 1847, attacked suddenly, and for the first time, with hemorrhage from the uterus, without pain, about 4 P. M. The hemorrhage increasing, and being alone, she determined to go to a man working at some distance, (about 300 yards,) and send him for assistance. On walking, the hemorrhage increased, and with it her alarm; she, however, effected her object, and has since described "the blood as if pouring from her" on her way back. Before regaining her cottage, she stated that she could not see, and with difficulty succeeded in groping her way by palings, &c., to the cottage door, and from thence to the bed, on which she fell. I arrived about 5 o'clock, and found her lying partly on the bed, and her clothes dyed in blood: she was blanched, cold, almost pulseless, unconscious, and blood continued to drain from her; brandy was freely given, and after examination one drachm of powdered ergot in form of infusion. On examination, the os uteri was found dilated, and the placenta bulging through it: anteriorly the distended membranes could be reached, and a foot detected; the membranes were then ruptured, and the foot brought down; hemorrhage continued; slight uterine pains occurred; pressure was applied over the uterus, which was firm, and the child, a female, delivered, still born. On examination, another fœtus was detected: the hemorrhage continued, and placenta occupied the same position: with some difficulty I reached and ruptured the second bag of membranes: the fœtal head descended, and with the gush of liq. amnii the placental mass was expelled, which proved to be a double one, and remaining connected by one cord to the child unborn; the hemorrhage now (half past 5) ceased, and although uterine pains did not recur for two hours at least, and the delivery of the second (a still-born female) was not completed until after half past 8, *there was no return of it.* After the expulsion of the child, the uterus did not contract firmly for some time, but I could detect an unusual hemorrhagic discharge; steady pressure was at first kept upon the uterus with the hand, and afterwards by means of a pad and bandage firmly applied. Her temperature improved with her pulse, after the free administration of brandy in gruel, and she was partially conscious during delivery. After delivery she suffered from hydrosis, and this was followed by general anasarca, accompanied throughout by defect of vision, from which she has eventually recovered, and has since given birth to another child. It is impossible to form any idea of the quantity of blood lost in this case; her gory track was more than readily to be traced, and the cottage floor was covered with blood.

Case II.—Mrs. Duke, aged 28, 4 feet 10 in. in height, and possessing a small rounded pelvis, had given birth to two small living female children at the full period, after long and severe labors. Had aborted once at the third month; and had expelled an unimpregnated ovum, after having obscure symptoms of pregnancy for five months. She was in the last month of utero-

gestation when I was summoned to her, at half past 4, P. M., of October 14th, 1847. I found her upon the bed, lying quietly upon the left side, and the abdomen; unconscious; ghastly pale; cold; pulse scarcely perceptible; sighing occasionally; breath of death-like coldness, and occasional jactitation of the arms. The clothes and bedding were saturated with blood; blood was upon the floor; and a chamber-vessel by the side of the bed contained more than five pints of coagula: (this was ascertained afterwards by measure.)

A wine-glass of gin was immediately given; brandy procured, and a dessert-spoonful given in a little warm gruel frequently.

On examination, blood was found oozing from the vagina, which was filled with coagulum. The os uteri was fairly open and dilatable: within it, and completely surrounding it, was found the placenta. No sensation of fluid within the uterus could be detected, and the firm head of a fœtus could be distinctly felt through the placenta; the uterus through the abdominal parietes was found firm and globular, and remained steadily so. Without any evidence of uterine pains: no fœtal movement could be detected, and, having no stethoscope with me, the position and state of my patient prevented my endeavoring to ascertain the existence or non-existence of the child. Without altering the position of my patient, I determined upon immediately removing the placenta, which I found attached to the anterior part of the neck of the uterus, the posterior and larger portion of the placenta being already detached, and separated from the uterus by coagulum; the separation was readily effected by passing the left hand between the uterus and placenta posteriorly, then gradually rotating the hand to the right, keeping the dorsal surface of the fingers firmly pressing against the uterus, and the margin of the placenta within their palmar surface, so that it was readily removed after its detachment by bending the fingers and withdrawing the hand; some portion of the membranes being fixed between the head and pubis, yielded during extraction, and remained behind. Hemorrhage continued during the removal of the placenta, but ceased with its removal at 5 A. M.; and no coagula formed afterwards in the vagina. The placenta was entire, of usual size; coagula were adhering to a considerable portion of its maternal surface, and its structure was to all appearance healthy. The cord was not tied or divided until some half hour after the removal. I could distinguish no pulsation in it, but found the umbilical vein enormously distended.

The poor woman was now warmer; somewhat conscious; pulse more perceptible, though very feeble—rapid, and not to be accurately counted; free from pains and hemorrhage. The uterus continued firm and globular; and, upon examination, a very firm fœtal head was found resting upon the open os uteri in the natural position.

The abdomen (which had until now been supported by hands) was encircled by a broad bandage; and as the patient dozed at intervals, the brandy and gruel was only occasionally given, and in smaller quantities.

About half past 7, slight uterine pains commenced, and gradually increased; the temperature of the patient was good; the strength of the circulation had improved, and the radial artery communicated the characteristic vibratory sensation of the hemorrhagic pulse, the number of beats varying from 140 to 150 in the minute; no return of hemorrhage.

At half past 8, pains were frequent, but not strong enough to be effective; the firm fœtal head remained fixed in the brim of the pelvis, and resting on the dilated and dilatable os. One drachm of powdered ergot was given in the form of infusion, and speedily increased the strength and frequency of the pains, but without affecting the position of the fœtal head. Shortly after 9 o'clock, not deeming it prudent to tax further my patient's power of endurance, I opened the head with a strong pair of scissors, and, with very little aid in the way of traction, the head shortly passed into the cavity of the pelvis, and was expelled with a portion of the membranes, *by the uterine efforts*, about 20 minutes past 10—more than five hours after the removal of the placenta. There was no hemorrhage after the labor; indeed, after the removal of the

placenta, the fingers were not rendered more sanguineous than usual by the examinations, (excepting, of course, the effect of opening the cranium,) and the only napkin I kept applied was soiled, not soddened, by the discharge. The child (a male) was dead, well-formed, of full size, and livid.

After the labor, my patient was much better than could have been anticipated; the uterine action appeared to have rallied her most effectually; the surface of the body was not only warm, but moist; pulse 136, of vibrating character. Though not disposed to speak when addressed, she was perfectly conscious, and the uterus remained firmly contracted. The abdomen was firmly supported, and the position directed to be maintained until my next visit.

It is sufficient to state that this poor woman steadily improved; the pulse gradually diminished in frequency, and lost its character. The confusion in her head consequent on the loss of blood was her only complaint, and this, which she compared "to the constant noise and bustle of a railroad station," slowly subsided. She suffered but little, and a short time, from the distension of the mammary glands, or consequent constitutional irritation. After this, as after former labors, she had but little lochial discharge, and the after-pains were scarcely recognised. She was allowed light broths and milk, with her gruel and arrow-root, from the first, and, after a few days, tonics were prescribed, and diet further improved.

Her after-statement was, "that there had been no previous hemorrhage; that she went to bed well, and was awoke before 4 o'clock with an urgent desire to pass water; something escaped, which she supposed to be urine, before she could gain the vessel; on seating herself, there was a sudden gush of she knew not what; she felt faint, and knocked." It appears that a female in the house found her upon the vessel, leaning against the bed, insensible, and, with assistance, placed her as I found her.

In his remarks, Mr. Ray stated that he did not advocate the removal of the placenta in all cases of unavoidable hemorrhage; that he was able to add his testimony to the comparative safety of the practice, as far as the mother was concerned, in such cases alone as those related; and confessed that, until the occurrence of his first case, he did not attach to the opinions of the late Mr. Kinder Wood, Doctors Simpson and Radford, the importance that he now feels they deserve.

He was induced to adopt this practice in the second case—

1st. From having witnessed in the former case the immediate cessatio nof the hemorrhage on the expulsion of the placenta.

2d. From believing that increase of exhaustion from further loss of blood, or from emptying the uterus, might probably be fatal.

3d. From the known difficulty in turning, the uterus having lost its fluid contents, and being in a state of *tonic contraction* around the body of the fœtus.

4th. From the impression that the delivery would be difficult, even could turning be accomplished, from the firmness of the head, presumed sex of child, and the knowledge of former severe and lengthened labors when the children were small, and female.

5th. From viewing the tonic contraction (or firmness) of the uterus, as favorable to the prevention of hemorrhage after the removal of the placenta.

In alluding to the source of the hemorrhage, he stated, whether it proceeded from the uterine arteries, sinuses, or from the opened cells on the maternal surface of the placenta, individually or collectively, it was *maternal*, and was derived principally from the venous system, as the uterine arteries, from their size, tortuosity, and contractility, could not produce those awful gushes. On considering the number, size, and free communication of the uterine sinuses with each other, tracing them through the uterine plexus to the internal and common iliac veins, and finding that these veins were not supplied with valves, he could readily understand hemorrhage to any amount, though the placenta was but partially detached, the uterus being in an *atonic* state.

The principles of treatment must be directed to the restraining the hemorrhage and supporting the vital powers of the patient.

To restrain the hemorrhage, the object must be to promote and ensure uterine contraction. The means employed may differ, but they tend to the same end. When the os uteri is undilated, the introduction of a sponge tent and plugging the vagina, mechanically assist, but tend physiologically to induce, uterine contraction, as in the induction of premature labor. The rupture of the membranes brings the firm body of the fœtus into more direct contact with the lining membrane of the uterus, and induces uterine contraction, (as in the induction of premature labor, or effect of a foreign body within the uterus,) affects the course of the sinuses, and causes pressure upon the hemorrhagic source, *the placental pad intervening.* Should hemorrhage still continue, the uterus being in a state of *tonic contraction*, it appeared to him that the removal of the placenta allowed of still further contraction of the muscular structure of the uterus, and *direct pressure* upon the open vessels. His impression was that it would be madness to remove the placenta or to deliver after turning, the uterus being in an atonic state; that to *deliver or empty the uterus* of its contents, with safety to the mother, *clonic contraction* should be present, but that *tonic contraction* was sufficient to restrain hemorrhage after the removal of the placenta, the *fœtus remaining in utero.*

Uterine contraction (tonic and clonic) might be induced by external friction or pressure, mammary irritation, enemata, ergot, galvanism, &c.; but in cases of extreme exhaustion from hemorrhage, he was disposed to believe that the most powerful excitant of motor power was the presence of the firm fœtal body within the uterus, and that the induced uterine action after the removal of the placenta was not only beneficial in causing the natural expulsion of the child, and consequently diminishing the risk of after-hemorrhage, but was also of the greatest value in producing reaction from the effects of the previous hemorrhage. The vital powers to be supported by the free administration of stimulants, with nutriment.

In his concluding remarks, Mr. Ray questioned the propriety of tying the cord in these cases, as children were occasionally born alive when following the placenta, and recommended the employing an inverted bowl or small basin, with a folded napkin intervening, to insure pressure over the uterus, as suggested by Mr. Harvey, of Castle Hedingham, to prevent after hemorrhage.

Discussion on Mr. Ray's Paper.—Mr. Waterworth having inquired the author's experience as to efficacy of the secale in extreme cases of exhaustion, as in his practice the administration of it in such a state was not attended with success:

Mr. Ray replied, his experience of its use in such extreme cases was not sufficient to enable him to arrive at a correct opinion; the object of giving it, in the case narrated, was to promote that firm uterine contraction so necessary to prevent hemorrhage, and which he believed different to the clonic contraction occurring during delivery, or at the time of the expulsion of the child.

Dr. Lodge stated, that from cases similar to those under discussion that he had seen, he had come to the conclusion, that if the patient be seen early, and before symptoms of great exhaustion showed themselves, the old method of delivery by turning should be had recourse to, by which the child's life might be saved; but if, owing to extensive hemorrhage, the mother's life was placed in danger, the child's life should not be considered, and the practice advised by Dr. Simpson be had recourse to. His own experience had clearly proved the suspension of all hemorrhage on the removal of the placenta.

Dr. Lever alluded to the hemorrhage which might arise from three sources,—the uterine sinuses, the uterine surface of the placenta, and from the placenta itself: when blood flows from the placenta it proceeds from the circular sinus of Meckel, which goes round the placenta and is irregularly dilated. He then alluded to the anatomy of the uterine sinuses, of which there existed two layers, one superficial and external to the other, which is deep-seated and close to the placenta; in the one layer the sinuses run parallel, but communicate freely with each other through horizontal sinuses at right angles; in the other they also communicate freely, but obliquely, with acute angles.

Being destitute of valves, the hemorrhage takes place from regurgitation. With respect to the mode of practice in these cases, he thought Dr. Simpson had been much misunderstood, as he never had advocated the removal of the placenta in *all* cases, but only where it was necessary, from the exhausted condition of the woman, to prevent any further loss. In other cases, where the patient was seen early, and turning could be accomplished with facility, the old practice was to be preferred; such was his own belief, strengthened by experience; it was our duty to try to save both mother and child, but if the life of the former became endangered, the child's life must not be considered. In answer to Dr. Murphy, he thought the hemorrhage ceasing directly the placenta was removed, might not be owing to the part being less vascular than when the placenta occupied its ordinary place; the supply of blood to the fœtus being equally required in each case, the sinuses enlarged accordingly.

Mr. Waterworth stated, that in thirty years' practice he had never met with a case of total separation of the placenta, but several of partial separation had occurred to him; and although he had saved the patient's life by a quick delivery by the forceps, still, as this was attended by risk of injury to the maternal structures, he certainly should adopt the practice now advocated, believing it safest and best. He alluded to the practice of not tying the maternal end of the cord after the birth of the child, thus allowing some blood to escape, and believed the placenta was by such a plan extracted with greater facility.

Mr. C. Taylor alluded to the probable danger of this method in cases of adherent placenta.

Mr. Hicks alluded to a case of placenta prævia in his practice, where all hemorrhage ceased on the expulsion of the placenta, which was effected by the natural efforts, although a great loss of blood had taken place previous to its separation. He had never seen any good arise from the administration of the ergot in such cases of extreme exhaustion, or until the system had been somewhat rallied, when it was required. The plan of not applying the two ligatures he now constantly adopted, and fully agreed with Mr. Waterworth as to the greater facility with which the placenta was extracted under such a practice; nor did he consider there was any fear of hemorrhage, even if the placenta was adherent, as the contracted condition of the uterus after the expulsion of the fœtus had the effect of so compressing the sinuses as to prevent entirely loss of blood.

Mr. Ray looked upon the fact of there being no direct communication between the placenta and uterus, as quite sufficient to prevent any alarm of hemorrhage from not applying two ligatures.

Dr. Lodge fully agreed with what had been stated of the inefficiency of giving ergot when great exhaustion existed.

Dr. Lever also concurred in this; and in answer to Dr. Lodge as to the diagnosis of, and propriety of interfering in, cases where the placenta is situated near the os uteri, stated that it was the better plan to keep the patient quiet, and explain to herself and friends the nature of the case, in order that assistance should be procured on the first appearance of the labor. With respect to the diagnosis of these cases, he did not think it difficult: the altered feel, on applying the finger to the os, which was soft and cushiony, instead of being firm and hard, as in natural cases; so also, in *partial* adhesion at the anterior or posterior part of the os, the corresponding part will be soft and resilient as described: these, especially if we consider the occasional occurrence of hemorrhage, will lead to a correct diagnosis. To show the danger of non-interference in these cases, he mentioned the case of a lady under the care of an unqualified practitioner, where flooding was allowed to recur, without an examination to find out its cause, until the powers became so sunk, that when seen by Dr. Lever she was evidently dying; the placenta was early detached, but the female sunk before she could be delivered of the child.

After some remarks on the statistics of the number born alive in these

cases, thanks were given to the author of the paper, and the Society adjourned.

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Malignant Disease of the Clitoris.—Mr. Brooke exhibited a specimen of this disease: the subject was 45 years of age, and had been married nearly 20 years, but had never been pregnant. Menstruation had always occurred with regularity.

For several years preceding any external appearance of the disease, sexual intercourse was followed by pain in the region of the clitoris, which at last became so severe as to compel its discontinuance.

About two years since, an excrescence, attached by a pedicle, and about the size of a nut, was removed by ligature from the region of the clitoris; shortly after which, ulceration commenced at or near the point from which the morbid growth had been removed, and had gradually progressed ever since, and, previous to the operation, had involved one of nymphæ (the other had been apparently eroded) and a considerable portion of both labia, and extended downwards to within three-quarters of an inch of the urethra.

The patient was placed under the influence of mercury, and subsequently took sarsaparilla with iodide of potassium for several weeks, but without in any degree arresting the progress of the disease. The patient had latterly suffered from almost incessant pain, which rendered necessary the repeated exhibition of opiates. The pain was much aggravated by the application of escharotics.

The general health being apparently otherwise good, the removal of the morbid parts by the knife was considered advisable, although one of the inguinal glands was a little enlarged. This was accordingly done about three weeks since, the actual cautery being freely applied to the course of the clitoris, and to every point of the surface that wore a suspicious aspect. Profuse hæmorrhage followed from several small vessels, which there was much difficulty in arresting. From this cause the time of the operation was much protracted, but the patient was kept under the influence of chloroform for nearly an hour; and, when its exhibition was discontinued, she soon recovered, without any unpleasant symptom. Mr. Brooke observed, that the wound was now perfectly healthy, and nearly healed, and the patient was free from pain, much gratified at the result of the operation.

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Spontaneous rupture of the Uterus before Labor. By Thomas F. Brownell, Esq., Surgeon to the Salford Workhouse.—M. A. Glover, aged 28 years, was of rather short stature, well proportioned, and had a healthy appearance. She had been married about eight years. In ten months after her marriage, after an ordinary labor of about nine hours' duration, she gave birth to a full-grown female child, which lived about four months. Soon after labor, which I understand was quite natural, she was seized with convulsions, followed by delirium, &c., which, continuing for a week or ten days, subsequently resulted in an attack of puerperal mania, for which she was afterwards admitted into the Manchester workhouse. Here she remained about two months, and as no improvement had taken place, was then sent to Lancaster Asylum, whence, having been confined seven or eight months, she was discharged cured, and from that until the present time, has enjoyed uninterrupted good health, having been separated from her husband during most of the time since her last confinement. She again became pregnant, and was admitted into the Salford Workhouse on the 4th of November last, in order to lie in.

She stated that in the beginning of the seventh month of gestation, whilst hanging out some clothes, she received a fall, which shook her violently, but did not cause her either then or afterwards any particular pain. On the 20th of November, at 6 a. m., after having passed a restless night, with occasional slight uterine pains, she began to vomit. This was followed by several pretty strong pains, during one of which she experienced (to use her own expression) a severe crack in the back, with a feeling of something

suddenly giving way in her inside, which was immediately followed by a discharge of liquor amnii from the vagina. The midwife, Mrs. Livsey, (an intelligent and experienced person,) was accordingly sent for, and was soon in attendance. She found upon examination the os uteri nearly closed, hard, and incapable of admitting the point of the finger; there was a slight discharge of a dark brown color from the vagina; the patient had vomited the contents of the stomach, and the pains had altogether subsided. Under these circumstances she left her, and found on her return at 3 p. m., that she had had no pain during her absence; the os uteri was lower down, and more yielding, though not in the least dilated, and a slight discharge of water, tinged with blood, escaped whilst making the examination. She had not slept nor felt the motion of the child since. Soon after the waters broke. A dose of castor oil was now ordered.

On visiting her the following evening, at the request of Mr. Roberts, the governor of the workhouse, I found the oil had been rejected by the stomach, and the vomiting had continued more or less to the present time, the matter at first being of a greenish yellow, and afterwards of a chocolate color; labor had not in the least progressed, the os uteri remaining as before, if anything, more contracted; had no pains; complained of being weak and poorly, and although several opiates had at short intervals been administered, she had as yet not slept, and with a feeble pulse, her countenance now began to assume an anxious expression.

Nov. 22d. About 11 a. m., she began to doze for short periods, but this state soon gave way to extreme restlessness, almost incessantly requiring her position to be altered. She now complained of severe pain in the middle of her back, and her pulse was evidently sinking. Between one and two o'clock her breathing became laborious, her finger nails turned livid, a continued gasping followed, and in this state she died.

The body was inspected, twenty-four hours after death, in the presence of several medical friends, and Mr. Roberts, the governor. The abdomen was found to contain a large quantity (about two pints) of dark-colored uncoagulated blood, probably diluted with a portion of the liquor amnii, and this being partially removed, the first object that presented itself, entirely excluded from the womb, and partially covered by the omentum and small intestines, was a full-grown male child, that had evidently been dead several days, the first stage of putrefaction having commenced. On partially removing the child, which lay with its left shoulder to the womb, a large rupture of this organ was observed, extending from the centre of the fundus posteriorly along its whole length as far as the os uteri, leaving only a narrow rim surrounding it, and through which the child had escaped into the cavity of the abdomen. The length of the opening was about seven inches, and the uterus, which seemed perfectly healthy, was well contracted over the firmly-adherent placenta.

In the above unfortunate case there are several points worthy of general notice, and which are of peculiar interest to the obstetrician. The patient was at the end of her calculation, and had a well-formed pelvis; the child was full grown, of average size, also well formed, and there existed between the two no disparity which would prevent the one easily passing through the other, supposing the presentation to be natural. From the time she first began to complain, up to her death, there was not the slightest pressure downwards; the os uteri was not at all dilated, and firmly resisted the introduction of the finger point, which effectually prevented me ascertaining the presentation of the child; nor was there any particular point or bulging perceptible in any part surrounding the os uteri, by which I could recognise its position. The os uteri projected downward a little way into the vagina, and above it seemed to lead to an obliterated cervix. Notwithstanding this state of things, from the total absence since the first commencement of anything like strong or bearing-down labor-pains, even at the time the waters escaped, it never occurred to me that the uterus had probably ruptured, which fact I first discovered at the *post-mortem* examination.

The cause of the rupture is involved in much obscurity. She had not over-exerted herself, nor had she received any bodily injury since the time she fell, and the shake the fall occasioned was not followed by any soreness, or other inconvenience. Towards the end of gestation, she was often low-spirited, and entertained a presentiment to which she often gave expression, that she should not survive the birth of her child. There was no softening of structure in the uterus, nor any indications of previous inflammation. The surrounding soft parts were healthy; the usual predisposing and exciting causes were all absent. Even supposing there was mal-position of the fœtus, that the wall of the uterus should be endangered from such trivial pains, seems surprising. The case altogether is remarkable, and it presents an instance of the least, I believe, in frequency,—viz.,—the longitudinal rupture of this organ extending from the centre of the fundus posteriorly in a straight direction, to within half an inch of the posterior centre of the os uteri.

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MATERIA MEDICA AND PHARMACY.

New Vehicle for holding Camphor in Solution.—Sir James Murray proposed a new vehicle for holding camphor in solution in doses considerably greater and with less irritation than it had hitherto been given. He said it was known that camphor was insoluble in water, and that when given in almond emulsion, it very readily separated on the addition of water, and that the same separation took place on adding water to a solution of camphor in spirits of wine. The opinions respecting the effects of camphor, were various. Some described it as a stimulant, and some as a sedative, but this difference of effect depended mainly on the quantity given. Now, he found that the fluid magnesia was capable of dissolving camphor to the extent of three grains to the ounce of the solution, and that adding water to the mixture did not cause any cloudiness or separation of the camphor. He exhibited an ounce of this solution, containing three grains of camphor, which appeared perfectly clear like water, and said, that if you add anything to the solution which was capable of withdrawing a portion of the water, such as dry common salt, a rough estimate might be formed of the quantity of camphor it contained. To show that the mixture he held in his hand did really contain the quantity of camphor stated, he added some salt, and the camphor separated and floated to the top, leaving half an inch of it cloudy. To employ camphor as a sedative, it must be given in large doses, but it is also necessary to have it perfectly dissolved, for when free it acts as a powerful stimulant. It is obvious, then, that given for this purpose it would not do to give the camphorated spirit, nor will the solution in emulsion be any better, as it readily separates from it in the stomach. We have, therefore, he observed, a menstruum in the fluid magnesia to answer better than any other hitherto known.

Mr. McCoy remarked that there was one menstruum not alluded to by Sir James, which was capable of dissolving a much larger quantity of camphor than that stated by him, and that was milk, which, in fact, was capable of dissolving something more than one-eighth of its weight.

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Asphyxia and Convulsions under the Influence of Chloroform.—A young lady, ætat. 27, who has for the last three years been the subject of severe neuralgic affection of the left side of the head and face, applied to me on the 11th inst. to extract one of her molar teeth of the upper jaw of the same side under the influence of chloroform. I accordingly moistened a sponge with one drachm of "Hooper's Preparation," covering it over with a fold of lint, and at first held it for a short time at a little distance from the mouth and nostrils, and I then applied it closely over them both for rather more than two minutes without producing the desired effect. During this period, the pupils of the eyes were alternately dilating and contracting, but the pulse was only slightly accelerated, and she expressed two or three times her desire that more chloroform should be used. I, therefore, finding there was no

tendency to the soporific state, added from twenty to thirty drops more upon the sponge, which, in two or three seconds, produced a rigid state of the arms and legs, with slight convulsions of the abdominal muscles. The pupils of the eyes soon became dilated to their utmost extent, and one of the most alarming states of asphyxia followed, which continued for one minute at least; the eyelids were fixed widely apart, the mouth open, and the countenance deadly pale, with a dark livid hue around the lips, altogether indicating the most death-like appearance that I ever witnessed. My partner, Mr. Garrard, who was present, immediately opened the window of the room, and then brought a bottle of the strong liq. ammon., which was the nearest restorative at hand, and held it to the nostrils, when, in a second or two, one deep inspiration took place, which was shortly followed by another; at this moment the face was instantaneously suffused with the brightest crimson, attended with the most rapid re-action of the pulse, and the patient apparently fell into a calm sleep. I now proceeded to extract her tooth, but before I could remove the instrument with the tooth from her mouth, the jaws became so firmly fixed upon it, that it was impossible to remove it for two or three minutes, during which state, the arms, the legs, and the whole body were in one continued state of the most distorted convulsions. With the greatest difficulty we depressed the lower jaw, and removed the instrument and tooth, the convulsions (though not so violent) continuing for five or six minutes longer, when she became half-conscious, and muttered, "more, more, or I cannot have my tooth out." She continued in this state, more or less, for another half hour, when she was attacked with the most excruciating pain at the top of the head, where there was much heat, and to which I applied linen rags dipped in sulphuric ether for twenty minutes, which removed the heat, and considerably abated the pain; she then reclined upon a couch for an hour and a half, and arose quite comfortable, and went home into the country. I called upon her the following day, and she only complained of great lassitude, as well as much soreness of her whole frame. She had had a pretty good night, and was in excellent spirits, and declared she would undergo the inhalation again if she required it. She described the feelings in her head in the first instance (under the influence of the inhalation) to the noise of a steam-packet just starting from her moorings, and afterwards her sensations to have been most heavenly.—*Med. Gaz.*

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Inhalation of Chloroform and Ether, with Remarks on Benzin.—(Westminster Medical Society, January 8, 1848.) Dr. Snow said, that the action of these two agents on the nervous system was essentially the same. He had on another occasion divided the effects of ether into five degrees, which might now be called degrees of narcotism, instead of etherization, to make the description applicable to other vapors. The immunity from pain did not correspond exactly with the degree of narcotism of the nervous centres, but was greater as the patient was recovering from the effects of the vapor, than in the corresponding degree, as he was getting under its influence; this was more particularly the case with ether, which he considered had superior anæsthetic effects to chloroform in proportion to the narcotism produced. When ether was inhaled, the patient sometimes completely recovered his mental faculties, whilst the insensibility to the operation continued. This curious phenomenon, he believed, had not been explained. He had an hypothesis to offer concerning it to this effect—that it depended on etherization of the nerves of sensation, which continued for some little time, on account of the ether exuding through the coats of the capillaries into the extra vascular lymph of the tissues, and requiring some time to return into the circulation, and escape by the lungs. He had met with this persistence of insensibility to the knife chiefly in young subjects, in whom, connected with the greater activity of nutrition, there was more liquor sanguinis exterior to the vessels. In the brain there was but very little at any period of life. Chloroform probably permeated the coats of the vessels less easily, and he had not met with the symptom in question during its use.

Chloroform certainly possessed the advantage of being less pungent than ether, and was therefore more easily inhaled; it had also one or two other advantages. With respect to its greater rapidity of action, this was not an unalloyed advantage. Ether produced a full chirurgical degree of insensibility in the adult in four minutes on an average; it might be desirable to shorten this period to two minutes, but not to a shorter time; not only in order to afford opportunity for watching its effects, but also on account of accumulative property in these vapors, hitherto not alluded to. The effect of them sometimes increased for twenty seconds after the inhalation was discontinued, and he thought it desirable to have six times this period, or two minutes, for producing complete insensibility, in order to avoid danger. But chloroform, when administered on a handkerchief or sponge, as recommended by Dr. Simpson, its introducer, sometimes produced complete insensibility in six or seven inspirations, as that gentleman stated. 100 cubic inches of vapor of chloroform contain 128 qrs. of the liquid, a quantity he believed more than sufficient to cause death; and yet this quantity might be contained in 700 or 800 cubic inches of air, and might be all breathed in a quarter of a minute, by taking deep inspirations. Danger might, it was true, be probably avoided, by putting but a limited quantity on the handkerchief or sponge, but this method was not very applicable in surgical operations, as they could not tell how much would evaporate without being inhaled, and consequently would be liable to fall short of the effect. When he, Dr. Snow, administered chloroform, he seldom produced complete insensibility in less than two minutes, as he never used the water-bath at a higher temperature than 60°, and if the patient breathed deeply, he opened the valve a little to dilute the vapor still further with external air.

He preferred chloroform on the whole to ether in the cases of adults, and had given it to young children with the most satisfactory results, yet he preferred the less powerful agent in the cases of children, as chloroform acted with still greater rapidity on them than on grown people. Ether rendered children insensible to any operation in the space of two minutes, and its effects on them were extremely favorable: but it required an apparatus by which the vapor could be exhibited very gradually at first, otherwise it caused them to hold their breath, as, indeed, did chloroform. He considered that an anæsthetic agent, which could be safely administered on a sponge or handkerchief by medical men with no special experience, to all patients, young and old, was still a desideratum. He had lately applied benzin in St. George's Hospital, and its action was very efficient and favorable in four cases of tooth drawing, where its effects were only carried to the second degree; but in an amputation where narcotism to the third degree was induced, it caused some convulsive tremors, and, consequently, although it totally prevented the pain, and was followed by no ill consequences, yet it did not seem applicable to important operations. The benzin he used was prepared by Mr. Bullock, by distilling benzoic acid with slaked lime. About the same quantity as of chloroform was expended, as about a drachm was used in each of the cases of tooth-drawing, and two drachms in the amputation; but being less volatile, it produced its effects less quickly. Benzin was the same liquid under another name, as the bicarburet of hydrogen which Dr. Faraday had previously discovered and obtained from condensed oil-gas. It consisted of six atoms carbon and three atoms hydrogen, and had a rather pleasant aromatic odor. He placed on the table an apparatus which he had contrived and used for the administration of chloroform. It consisted of two cylinders placed one within the other, and partially lined with bibulous paper, which absorbed the liquid and gave it up again to the air which passed over its surface. These cylinders were enclosed in a third one containing a water-bath. The inhaler was about the size of a half-pint bottle, and when in use was suspended by means of a short tube and screws to the face-piece which formed part of his ether apparatus.

Mr. I. Brown related a case of protracted labor, in which, the pains having ceased, and the os uteri being extremely rigid, he administered at the request

of the woman, a drachm of ergot of rye without any effect. Having waited an hour, he made her inhale chloroform; pains almost immediately came on; the os uteri relaxed, and the labor was quickly terminated. He had found the chloroform always produce expulsive efforts of the uterus.

Dr. Reid had seen chloroform administered by Professor Simpson to a number of gentlemen, on all of whom it took speedy effects; and though the experiments were made after dinner, the agent produced no sickness, nor any other unpleasant effects whatever. Dr. Simpson objected to all forms of apparatus, as they prevented the inhalation of a sufficient quantity of atmospheric air. He therefore preferred that the agent should be sprinkled on a handkerchief. He (Dr. Reid) had employed the chloroform in a case of delivery by forceps. It was completely successful; it had a remarkable effect in relaxing the perinæum. He had seen it successful in producing sleep in a case of mania, in which the patient had not slept for four days and nights. He alluded to the fact, that much of the chloroform on sale was impure and inert.

Dr. Ayres considered that chloroform, in its effects, more resembled carbonic acid gas than any other agent.

Mr. Greenhalgh had used chloroform in a case of delivery by forceps, with the best results. He had employed it also in a case of alarming hæmorrhage from abortion, in which the ovum could not be removed, from the contracted state of the os uteri. The chloroform had the effect of dilating the os, and allowing of the removal of the ovum. The patient did well. He had also employed it in the case of a child with convulsions from teething, with the greatest benefit; the convulsions immediately ceased, and had not since returned.

Dr. Murphy eulogized the use of the agent when administered with due care and in properly-selected cases. He had given it in the second stage of natural labor, with the most satisfactory result. He preferred chloroform to ether, as less depressing. He had noticed, when patients were under the influence of chloroform, and quite insensible, that, on introducing the hand in version, the woman appeared, on its introduction into the vagina and uterus, to struggle as in pain, but she did not recollect it afterwards.

Mr. Sibson said that he was glad to have an opportunity of expressing his thanks to Dr. Snow for the service he had done in improving the method of administering vapors, particularly that of ether, by supplying the heat that was abstracted, and thus enabling them to get a sufficient quantity of the vapor rapidly into the system. The substitution of chloroform was in a manner the carrying out of the same principle; and although he agreed in some of the cautions expressed in the paper, and admitted that chloroform might be inhaled too rapidly, yet he considered that there was no necessity to prolong the inhalation to two minutes before sufficient insensibility was induced; he thought that in this Dr. Snow was opposing his own principle. Dr. Snow had spoken, as did others, of the medulla oblongata being the only part of the nervous centres left unaffected in the fourth degree of narcotism; (a term which he approved of, as he did not agree with the French physiologists in considering the effects of ether as analogous to asphyxia;) but the medulla spinalis must be to some extent unaffected also, for the ribs as well as the diaphragm were generally moved in the respiration during the insensibility, and the muscles moving the ribs were supplied with nerves which come off below the medulla oblongata. This continued life of the respiratory function, at a time when the voluntary muscles could not be stimulated to act even by galvanism applied either directly or through their nerves, was most wonderful. He laid on the table his chloroform inhaler, which consists of his oval mask, with a place for a sponge and two valves added.

Application of Chloroform in Typhus Fever.—By Alexander Fairbrother, M. D.—An interesting case of the successful application of chloroform has just occurred in the Bristol General Hospital. The patient, a female

about 18 years of age, exhibited all the symptoms of a bad case of typhus fever. The usual remedies were tried for a fortnight without any beneficial effect. The unfavorable symptoms continuing, the patient being delirious, and the system worn out for want of sleep—in fact her life was despaired of—it occurred to me that chloroform, being used in operations to produce a sedative effect, if the patient could be kept in the same state continuously, it would reduce the too rapid circulation of the blood through the lungs, relieve the difficulty of breathing, and thus become efficacious in subduing the excited state of the brain and system in such cases, or in others of an inflammatory nature. I accordingly tried the experiment, commencing with ten minims administered in a cup-shaped sponge, inclosing the mouth and nostrils, but occasionally admitting atmospheric air. About ten minutes were occupied in the inhalation. The soporific state was induced in a few seconds, and continued for about half an hour. In about four hours, the chloroform was again administered, the quantity being somewhat increased, and the inhalation was now continued for half an hour. The patient slept from this time (12) till 4. She took a little porter, and again slept till 8 o'clock. The application was then repeated, and has been continued for several days; the quantity of chloroform being gradually increased to twenty-five minims, and the time of inhalation to forty minutes, guided in these particulars by the state of the pulse.

No other medical treatment has been adopted; the only other means used being the sponging of the body with tepid water, and applying cold pads to the head. The system was supported by beef-tea, porter, wine, etc., and to allay thirst, toast and water. The patient is now recovering; the pulse is reduced from 130 to between 70 and 80; the tongue is clean and moist; the skin cool; diarrhœa has ceased; the appetite is returned, and the countenance is regaining its natural aspect.

It is a recommendation of this remedy, that, so far from its being disagreeable, the patient, after it has been administered a few times, craves for it.

Injurious Effects of Chloroform.—At a recent meeting of the Surgical Society of Ireland, Mr. Stapleton stated that he had lately tried chloroform in some cases in Jervis Street Hospital. One man was put into a sound sleep, but awoke in about a minute afterwards, and expressed himself as having been conscious of everything that was done to him; while apparently unconscious, he said that he had felt himself pinched, and so forth; but was unable to resist or give any indication of feeling. A resident pupil of the hospital had tried it a day or two ago, and was very merry during its action; to-day he again tried it, and was put to sleep in two minutes, but recovered in two minutes more, and shortly after began laughing in a hysterical manner, and soon fell into violent convulsions, so as to require the united efforts of several people to hold him down in bed; he then got rigors, cold perspirations, and sickness of the stomach; his pulse sometimes fell very low, and, when the excitement was coming on, it would rise to 100. He remained in this uncertain state for two hours, and then expressed a wish to sleep. Under the operation of the chloroform there was a complete loss of muscular power, except during the convulsions.—*Dublin Medical Press.*

Test of the Presence of Alcohol in Chloroform.—In a communication lately made to the Academy of Medicine, M. Mialhe states as the results of his researches:—

1. That pure chloroform, applied to the skin or mucous membrane, produces simple redness, without cauterization or vesication. It acquires, however, caustic properties when mixed with a small quantity of absolute alcohol.

2. That the chloroform used in medical practice, which has caused vesication of the lips or nostrils, with irritation of the bronchial tubes, could not have been pure.

3. That this chloroform contains a certain quantity of anhydrous alcohol.

The presence of this liquid in chloroform was suspected by MM. Soubeirain and Gerdy, and it has been demonstrated by analysis. The alcohol may act by combining with and coagulating the albuminous fluids of the body, and thus giving rise to the local effects of irritation.

Hence, before using chloroform vapor in surgical practice, it is indispensably necessary to ascertain whether it be pure. M. Mialhe finds that the following is a very delicate test of the presence of alcohol in chloroform. Place some distilled water in a tube or glass, and drop on it a small quantity of chloroform. The greater part sinks immediately to the bottom of the vessel, owing to its great density (sp. gr. 1·48). A small quantity floats by repulsion, but may be made to fall in small globules by agitation. If the chloroform be pure, it remains transparent at the bottom of the vessel; but if it contains only a small portion of alcohol, the globules acquire a milky opacity.—*London Medical Gazette.*

Chemical Properties of Chloroform. By Alfred S. Taylor, F. R. S.—M. Dumas gives the following account of the properties of chloroform:—It is a heavy liquid, transparent like water, having some analogy to the chloride of olefiant gas, but its density is greater and its boiling point is lower. Its specific gravity at 64° is 1·48. It boils at 1·40°, and the density of its vapor is 4·2. It is not inflammable, but it causes alcohol to burn with a yellow smoky flame. When its vapor is passed over copper or iron, heated to redness, it is decomposed, a metallic chloride results, and carbon is deposited; but, according to Liebig, no inflammable gas is evolved. It is not decomposed by potassium; some bubbles of hydrogen are evolved, but it may be distilled over the metal without change. Caustic alkalies do not decompose it, except after long boiling, when it is entirely converted into chloride of potassium and formate of potash. Alcohol and ether readily dissolve it, but it is again precipitated by water from these solutions. It dissolves phosphorus, sulphur, and iodine,—the latter does not decompose it. It may be easily prepared by distilling, in a capacious retort, one pound of chloride of lime with three pounds of water and three ounces of rectified spirit. The weight of chloroform obtained is equal to the weight of alcohol employed.—*Traité de Chimie appliquée aux Arts*, T. v. p. 594.

Before I had seen these remarks, I had undertaken some experiments on the properties of chloroform; and the results appear to me to show, that if this liquid can be cheaply produced, it may hereafter become of important service in chemistry and the arts.

The specimen of chloroform which I examined, was furnished to me by Mr. Jacob Bell, and was procured from Mr. Morson. Its specific gravity at 60° was 1·434. It was clear and colorless, perfectly neutral, had a warm ethereal taste, without any pungency, and the peculiar odor which characterizes it. A few drops placed on the skin evaporated readily, producing a great degree of cold, but no irritation. When mixed with alcohol and ether, the evaporation was accompanied by slight irritation of the skin. A few drops placed in a glass jar were very speedily diffused in a vapor. A lighted taper plunged into the vessel burnt with a smoky flame, but the chloroform itself was not in the least inflammable.

When a few drops were placed on cotton wrapped round the bulb of a spirit thermometer, and introduced into an air-pump receiver, the temperature fell in a few minutes from 60° to 10°.

It was but very slightly dissolved by *water*. When poured on this liquid, the greater part sank in globules, which had a milky-white appearance (an indication of the presence of alcohol, according to M. Mialhe): the small globules which floated sank on agitation through the liquid. It was so little soluble in water, that three drops on nine ounces of distilled water, and well shaken, did not readily disappear, although they imparted a strong odor to the liquid.*

* According to M. Dorvault, 2000 parts of water are required to dissolve one part of chloroform.

With *alcohol* and *ether* it readily forms transparent solutions, which burn with a yellow smoky flame. Water added to the alcoholic solution causes a separation of the chloroform, which falls to the bottom of the vessel. As chloroform is less soluble in water than ether, this process of washing, if performed in a graduated tube, may serve to determine the proportion of alcohol present. The specific gravity and the boiling point, which is 140° for chloroform, and 172° for alcohol, would also enable the analyst to determine the presence of the last-mentioned liquid.

Chloroform readily mixes and combines with the *essential oil of turpentine* and *bisulphuret of carbon*.

It easily dissolves *camphor*, and the solution burns with a yellow smoky flame, having a green edge or border.

It speedily softens and dissolves *caoutchouc*, more readily when pure than when mixed with an equal part of oil of turpentine; although in the latter case the softening and solution were complete in twenty-four hours.

It dissolves *amber*, *copal resin* (with great facility), and all the common *resins*. With red and black sealing-wax it makes a strong varnish. Contrary to the statement of Dumas, I did not find that it perceptibly dissolved *sulphur* or *phosphorus*.

It dissolves *white wax* and coagulates *albumen*.

It dissolves *iodine* and *bromine*, forming deep-red colored solutions, and it separates these metalloids from water. A few drops of chloroform shaken with an aqueous solution of iodine or bromine, removes either of these bodies, and the chloroform falls to the bottom of the vessel, acquiring a red color, the depth of which is proportioned to the quantity of either substance present.

It floats on concentrated *sulphuric acid*, which is only darkened by it at a boiling temperature, when the chloroform is rapidly dissipated in vapor. It slowly decomposes nitric acid in the cold, but at a high temperature deoxidation is rapid, and nitrous acid is abundantly evolved. It scarcely affects a solution of iodic acid, which acquires, after a time, only a faint pink color.

It contains no free *chlorine*: it has no bleaching properties: it does not decompose iodide of potassium, nor does it dissolve *gold*, either by itself or when boiled with concentrated nitric acid. When *nitrate of silver* was added to it, there was no precipitate,—the chloroform merely acquired that milky opacity which it had when dropped into distilled water; no chloride of silver was formed. In no respect did it possess any analogy to the salts known as chlorides.

It did not decompose chloride of gold on boiling.

It could not be made to combine with a solution of *caustic potash*; and, when *potassium* was dropped into it, the effects were similar to those described by Dumas, with the exception that the particles of metal acquired a dark incrustation, and, after two or three days, the metal had entirely disappeared, leaving a brown sediment.—*London Medical Gazette*.

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TOXICOLOGY.

Poisoning by Aconitina.—Dr. Golding Bird, in relating very briefly some of the most remarkable facts connected with a case of poisoning by aconitina, stated that he was, from peculiar circumstances, not at present at liberty to allude to more than the actual symptoms presented whilst the patient was under his notice. He was anxious, however, to relate these, because they were not only very remarkable, but had not at present been recorded as the results of poisoning by the alkaloid in question; indeed, no case of this kind has been published, although several exist in which the roots and leaves of the aconite have accidentally produced death. There are few agents more likely to be employed by the secret poisoner, with greater certainty of escaping detection, than aconitina, the terrific power of which in destroying life, even in minute doses, is well known. A few days ago, Dr. Golding Bird was requested hastily to join a consultation on the case of

a person holding an important position in society, and of very high intellectual attainments, who, under very peculiar circumstances, had swallowed some aconitina, which had been procured from one of the most respectable druggists in London, from a prescription of the patient's own writing, he having devoted some part of his time to the study of physic and chemistry as a part of his very extended education. From collateral evidence, it appeared probable that almost immediately after taking the poison the person must have fallen, and struck his head a severe blow against some furniture in the room. The poison, or the blow, or both, must have produced immediate violent vomiting, as the room was flooded with vomited matter. How soon he was discovered after this event was not clear, from the peculiar circumstances in which he was placed. An excellent and most intelligent surgeon, and shortly after a physician, were called to him; and about two o'clock in the afternoon, which must at least have been eight hours after taking the poison, Dr. G. Bird met these gentlemen. The patient was then fearfully collapsed; the surface cold and sweating; quite pale; the heart's action scarcely perceptible; pupils acting to light; no paralysis whatever either of sensation or motion. Notwithstanding the intense exhaustion, the intellect was unimpaired. The most prominent symptom was the repeated and terrific vomiting of a brownish fluid. This vomiting was, however, peculiar, and perhaps hardly deserved that title, the patient really being seized with a kind of general spasm, during which he convulsively turned on his abdomen, and with an intense contraction of the abdominal muscles, he jerked out, as it were, the contents of his stomach, with a loud shout, depending, apparently, on the sudden contraction of the diaphragm. These exhausting and distressing symptoms had recurred every minute or two. On attempting to make him swallow any fluid, a fearful spasm of the throat took place, producing the distressing effects so well known in the hydrophobia from the bites of rabid animals: this was not produced by the sight of water; but the convulsive movements of the body, and emptying of the stomach, were excited by abruptly touching him. He was placed in a hot bath, and afterwards removed to bed, covered with blankets, a large mustard poultice applied to the scrobiculus cordis, and an enema of turpentine administered. He remained in much the same state, the sedative effects of the poison on the heart gradually lessening, so that at nine o'clock the pulse was easily perceptible, although weak; the hydrophobic spasms were, however, then produced by every attempt to swallow, so that none of the medicines suggested for him could be made use of. It was therefore determined merely to administer enemata of beef-tea, with the yolk of an egg, and ten minims of laudanum, chiefly with the intention of procuring rest and giving support. He had a fearful night of exhaustion and spasm; intellect perfect, and even vivid, so as to enable him, whenever he recovered a little from his exhaustion, to carry on a conversation in the French language with an excellent and distinguished clergyman, who shared the task of soothing and watching him with his zealous surgeon. After this hard struggle with death, this very remarkable man emerged from the effects of the poison; and at two o'clock on the following day, when another consultation was held, he was regarded as convalescent. Dr. Golding Bird drew attention to the fact, that although at least two grains and a half of aconitina had been swallowed, yet that the majority of the poison must have been got rid of during the vomiting which followed the injury to the head, resulting from the fall. He also pointed out the remarkable train of symptoms developed, especially the convulsive vomiting and imperfect hydrophobia, as possibly being characteristic of the effects of the poison. For although they differed importantly from the effects of aconite root, with the exception of the sedative influence on the heart, still it must be recollected that such difference becomes intelligible when it is recollected that a pure alkaloid often differs materially in its physiological action from that of the plant from which it is an extract, as shown remarkably in the case of the alkaloid conia.

Lead from Urine and Expectoration of a Man affected with Painters' Colic.—Mr. James Ogden Fletcher, through Mr. John Fletcher, presented globules of lead, obtained from the urine of a man aged 38 years, suffering from painters' colic; and he also detailed the results of an analysis of the expectoration of the same individual, proving the presence of lead in the sputum.

Urine.—One thousand parts of urine evaporated gave 71·5 of solid residue; this, after incineration, yielded 13·5 salts. A stream of sulphuretted hydrogen passed through the aqueous solution of these salts, threw down sulphuret of lead in quantity sufficient to afford three and a half grains of metallic lead. In this solution, likewise, prussiate of potash and infusion of galls indicated the presence of peroxide of iron.

Sputum.—One thousand parts of expectorated matters left, after calcination, 9 of salts. A stream of sulphuretted hydrogen passed through the aqueous solution of these salts, precipitated sulphuret of lead. This was re-dissolved by dilute nitric acid, and tested by iodide of potassium, bicromate of potash, and sulphuretted hydrogen, which proved satisfactorily the presence of lead. Prussiate of potash threw down a blue precipitate, indicating the presence of iron, which was further proved by other reagents.

The patient for several years had suffered an annual attack of lead colic, and with the three last attacks had the dropped hand. He worked in a lead-mill, and was engaged in the process of "flatting," in which white lead dissolved in naphtha is plentifully used. On this occasion the colic came on suddenly; the paralysis was considerable; and the blue line on the gums strongly marked.

A subsequent analysis, made two weeks afterwards, when the paralysis was less, and the blue line on the gums less strongly marked, showed a diminution in the quantity of metallic lead in the urine, one-fourth.—*Mr. Fletcher in Med. Gaz.*

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Arsenic in the serosity of a Blister. Consequent on Poisoning by that substance.—New Method of detecting Poisoning.—M. Legroux, physician to the hospital at Beaujon, was called to attend a young woman, who, the evening before, had taken arsenic, with the intention of poisoning herself, and being subject to the most alarming symptoms, refused to give any account as to the cause of her sickness. The product of the vomitings and stools were lost, and the urine was very scanty. M. Legroux, reduced to treat her for the symptoms, applied a large blister. The abundant serosity which was accumulated under the epidermis he collected, and confided to M. Chatin for analysis, to whom also he sent the urine which the patient passed.

After destroying the organic matter of the serum and urine, M. Chatin dissolved the residue in distilled water, and introduced it, after some unsatisfactory trials, into Marsh's apparatus. The urine, weighing thirty-two drachms, furnished an arsenical ring, and spots sufficient to cover entirely two plates of porcelain. The residue of the serum of the blister, although weighing only fifteen drachms, gave sixteen plain spots of arsenic, and a good number of slight stains. This serum, at the time it was examined, was of an amber color, saltish taste, (nitrate of silver gave an abundant white precipitate insoluble in nitric acid), and a manifest alkaline reaction.

This fact suggested to M. Chatin a very proper idea, at least so it seems to us, that from this can be deduced a useful agent in the diagnosis of poisonings, and in some cases in the search for poisonous substances in the serous humor and cutaneous excretions. In effect, when the urinary secretion fails, as sometimes happens in the violent period of poisoning when the digestive tube does not contain, or does not give off any suspected matter, there will remain with the physician to prove his diagnosis, the resource of provoking the serous secretion of the skin, and seeking from this secretion the knowledge which he wants to treat the patient rationally.—*Journal de Chimie Médicale et de Toxicologie*, June, 1847.

OBITUARY.

Died, at his residence in White-street, on the 17th of March, JOHN STEARNS, M.D., late President of the New-York Academy of Medicine, aged 78.

Dr. S. was a native of Wilbraham, Mass., and graduated at Yale College in 1789. About the year 1811, he was elected to the senate of the State of N. Y., and became an active member of the Council of Appointment. For more than twenty years he was an efficient member of the Vestry of St. George's Church, in Beekman-street. He was also one of the founders of the American Tract Society, and for more than ten years was Chairman of its Finance Committee. In every relation of life he was "*sans peur et sans reproche.*"

In the death of Dr. Stearns, the profession has lost one of its ablest and most respected members, and society one of its brightest ornaments. Through a long life of usefulness and devotion to the active duties of his profession, Dr. S. has ever maintained an unblemished character, and a high reputation for skill, learning, and talent. To him the science of medicine is indebted for the introduction of ergot into obstetrical practice,—undoubtedly one of the most important discoveries of the age. Dr. Stearns has filled with great credit many important places of honor, such as State Senator, President of the New-York State Medical Society, and President of the New-York Academy of Medicine; in which capacity he won new laurels for his zeal and devotion to the interests of science and the profession.

We understand that his disease was malignant erysipelas, contracted by attendance upon a patient laboring under the same affection. It belongs to the Academy of Medicine to do honor to the memory of one of its most illustrious members; and this, we doubt not, will be done in no stinted measure

These remarks are written as the Journal is going through the press, which, we trust, will serve as an apology for so brief and imperfect a notice.

Died, in New-York, on the 2d of March, EUGENE F. HUTCHINSON, M.D., one of the Physicians of the New-York City Dispensary.

It is with a heavy heart that we record on our pages the decease of our young, talented, and amiable friend. We first knew him as a student of medicine at Geneva College, in 1844-5, where he attracted our particular notice for his intelligence, as well as his great zeal and devotion to study. Kind and amiable in his deportment, gentlemanly in his manners, and ingenuous in all his conduct, he won alike the respect and friendship of pupils and teachers. After graduating, he removed to this city, where he commenced practice with every prospect of ultimate success, as a Dispensary Physician. He was devoted to and beloved by his patients, ardent in the pursuit of knowledge, honorable in all his deportment. He was rising rapidly in the estimation of the public, as well as the profession, and he fell a victim, after a short illness, to fever contracted at the bed-side of a patient. Had our friend lived, he would have achieved fame, reputation, and wealth; he lived long enough to acquire what are of, perhaps, more real value—the love, admiration, and friendship of all who enjoyed his acquaintance.

Died, in the amphitheatre of the Hospital of Berlin, the celebrated Prussian Surgeon, DIEFFENBACH, of apoplexy, immediately after his lecture, on the 11th of November, 1847.

On the 4th October, in London, JOHN MORGAN, for twenty years lecturer on surgery in Guy's Hospital.

Died, in London, December 7th, in the 53d year of his age, ROBERT LISTON, Esq., well known as one of the most eminent surgeons of our day. His disease was aneurism of the aorta at the origin of the innominata.

Died, recently, aged 72, the celebrated BURDACH, author of a well-known work on Physiology, and Professor in the University of Königsberg.

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On Disorders of the Cerebral Circulation and of the Connection between Affections of the Brain and Diseases of the Heart. By GEO. BURROWS, M. D., etc., with Colored Plates. Philadelphia: Lea & Blanchard, 1848, 8vo. pp. 216. - *ib.*

ART. XI.—Etherization.—Littell's Living Age—No. 291.—18th March, 1848. - - - - - 352

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McClellan, M. D. Philadelphia: Grigg, Elliott & Co., 1848, 8vo. pp. 432. - - - - 358

Art. XIII.—The Lungs—their Uses and the Prevention of their Diseases; with Practical Remarks on the Use of Remedies by Inhalation. By James Stewart, M. D., etc. Wm. H. Graham. 12mo. pp. 100. - - - - 360

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Art. XVI.—Ophthalmic Memorandæ respecting those Diseases of the Eye which are more frequently met with in practice. By John Foote, M. D., &c.—New York: S. S. & W. Wood, 261 Pearl-street. 1848. 18mo. pp. 131. - 363

Art. XVII.—The Medical Practitioner's and Student's Library. The Principles and Practice of Midwifery. By David H. Tucker, M. D., Prof. of the Principles and Practice of Medicine, &c. With numerous illustrations. Philadelphia: Lindsay & Blakiston. 1848. 12mo. pp. 405. - - 364

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Art. XVIII.—On the Theory and Practice of Midwifery. By Fleetwood Churchill, M. D., with Notes and Additions, by R. M. Huston, M. D., etc. 3d American Edition, revised and improved by the author. With illustrations. Philadelphia: Lea & Blanchard, 1848, 8vo. pp 251. - ib.

Art. XIX.—Obstetric Tables. Comprising graphic Illustrations, with descriptions and practical Remarks: exhibiting on Dissected Plates, many important subjects in Midwifery. By G. Spratt, Surgeon Accoucheur. First Am. Edit., carefully revised, and with additional Notes and Plates. Philadelphia: Thomas, Cowperthwaite & Co. 1848. 4to. - - 365

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TO READERS AND CORRESPONDENTS.

We have received the following works since our last:—

Practical Observations on Certain Diseases of the Chest, and on the Principles of Auscultation, by Peyton Blakiston, M. D., F. R. S., etc. Philadelphia: Lea & Blanchard, 1848. (From the Publishers.)

On the Blood and Urine, by John William Griffith, M. D., F. L. S., etc., G. Owen Rees, M. D., F. R. S., F. G. S., etc., and Alfred Markwick, M. D., etc., in one volume. Philadelphia: Lea & Blanchard, 1848. (From the Publishers.)

Nineteenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania—Transmitted to the Senate and House of Representatives. March, 1848. Philadelphia: Ed. Banington and Geo. D. Haswell.

Report of the Visiting Physicians of the Lunatic Asylum on Blackwell's Island, to the Board of Aldermen of the City of New York. (From Dr. G. McDonald.)

Summary of the Transactions of the College of Physicians of Philadelphia, from Dec. 1847 to March 1848, inclusive. (From the Society.)

The Character of Rush, an Introductory to the Course on the Theory and Practice of Medicine, in the Philadelphia College of Medicine. By Thomas D. Mitchell, M. D., Prof. Theory and Practice, etc. Published by request of the Class. Philadelphia: John H. Gihon, Printer. (From the Author.)

Valedictory Address to the Graduating Class of the Philadelphia College of Medicine, March 3d, 1848. By Henry Gibbons, M. D., Professor of Institutes and Practice of Medicine. Published by request of the Class. Philadelphia: John H. Gihon, Printer. (From the Author.)

Elements of General Pathology; a Practical Treatise on the Causes, Forms, Symptoms and Results of Diseases. By Alfred Stillé, M. D., Lecturer on Pathology and the Practice of Medicine; Member of Med. Soc. of Observation, Paris; Fellow of the Philadelphia College of Physicians, etc. Philadelphia: Lindsay & Blakiston, 1848, pp. 483. (From the Publisher.)

Practical Hints on the Prevention and Treatment of Diseases of the Lungs. By James Stewart, M. D. New York: W. H. Graham. 1848. (From the Publishers.)

A Dispensatory and Therapeutical Remembrancer; Comprising the entire lists of Materia Medica, Preparations and Compounds, with a full and Distinct Version of every practical Formula, as authorized by the London, Edinburg, and Dublin Royal College of Physicians, in the latest editions of their several Pharmacopiæs; to which are subjoined copious relative tables, exemplifying approved forms under which compatible medicines, &c., may be extemporaneously combined, &c. &c. &c.: By John Mayne, M D., L. R. C. S., Edinburgh. Revised; with the addition of the Formula of the United States Pharmacopœia, &c., by R. Egglesfield Griffith, M. D., Author of "Medical Botany," &c. 12mo., pp. 329. Lea & Blanchard: Philadelphia: 1848. (From the Publishers)

Notes on the Theory of Human Existence. Comprising remarks on Vitality, the Mind, and incidentally the Soul; the whole being an exposition of the Nature, Powers, and Destiny of Man. By Thomas L. Wright, M. D., Cincinnati. 1848. (From the Author.)

An Address, delivered at the Castleton Medical College, Introductory to the Spring Session of 1848. By Joseph Perkins, M. D., Prof. of Materia Medica and Obstetrics. (Published by the Class.) 1848. (From the Author.)

Elements of Natural Philosophy: being an Experimental Introduction to the Study of the Physical Sciences. By Golding Bird, M. D., F. R. S., Fellow of the Royal College of Physicians; Prof. of Mat. Med. at Guy's Hospital, &c., &c. With 372 Illustrations. From the Revised and enlarged 3d London Ed. Philadelphia: Lea & Blanchard. 1848. 12mo. pp. 402. (From the Publishers.)

Indenties of Light and Heat of Caloric and Electricity. By C. Campbell Cooper Philadelphia: Grigg, Elliott & Co. 1848. 8vo. pp. 90. (From the Publishers.)

Principles and Practice of Surgery. By the late George McClellan, M. D., Edited by his son, John H. B. McClellan, M. D. Philadelphia: Grigg, Elliott & Co., 1848. (From the Publishers.)

The Young Stethoscopist: or the Student's Aid to Auscultation. By Henry J. Bowditch, M. D., 2d Edition. New York: S. S. & W. Wood, 1848. (From the Publishers.)

A Descriptive Catalogue of the Anatomical Museum for the Boston Society for Medical Improvement. By J. B. S Jackson, M. D., Curator of the Museum, Professor of Pathological Anatomy in Harvard University. Boston, 1847. (From the Society.)

On the Theory and Practice of Midwifery. By Fleetwood Churchill, M. D., etc. With Notes and Additions. By R. M. Huston, M. D., etc. 3d American Edition, Revised and Improved by the Author. With 128 Illustrations from Drawings by Bagg and others, engraved by Gilbert. Philadelphia: Lea & Blanchard, 1848. (From the Publishers.)

Obstetric Tables, Comprising Graphic Illustrations. With Descriptions and Practical Remarks; Exhibiting on Dissected Plates many Important Subjects in Midwifery. By G. Spratt, Surgeon-Accoucheur. 1st American Edition, from the 4th and greatly improved London Edition. Carefully Revised, and with Additional Notes and Plates. Philadelphia: Thomas, Cowperthwait & Co., 1848. (From the Publishers.)

A Descriptive Catalogue of the Anatomical Museum of the Boston Society for Medical Improvement, by J. B. S. Jackson, M. D., Curator of the Museum, etc., in Harvard University. Boston: W. D. Ticknor & Co. 1848. 12mo., 300 pages. (From the Publishers.)

Transactions of the Medical Society of the State of New York. Vol. 3, 8vo. 84 pages. Albany: 1848.

Since March we have received the following in Exchange:—

The London Medical Gazette, for February and March.
——— Lancet, for April.
The Provincial Medical Gazette, for February and March.
The Dublin Medical Gazette, for February and March.
The London and Edinburgh Monthly Jour. of Med. Sciences, for February.
The Medical News and Library, for March and April.
The Philadelphia Medical Examiner, for March and April.
The Buffalo Medical and Surgical Journal, for March.
The New Orleans Medical and Surgical Journal, for February and March.
The Western Journal of Medicine and Surgery, for March and April.
The Southern Journal of Medicine and Surgery, for March and April.
The American Journal and Library of Dental Science, for April.
The Western Lancet, for March and April.
The Missouri Medical and Surgical Journal, for March and April.
The New York Dental Recorder, for March and April.
The American Journal of Insanity, for April.
The Charleston Medical Journal and Review, for March and April.
The New Jersey Medical Reporter, for March and April.
The British American Jour. of Med. and Phys. Science, for March and April.

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